

COUNTY PALATINE OF LANCASTER.

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# REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1904.

WITH STATISTICAL INFORMATION  
AND SUMMARY OF REPORTS OF DISTRICT  
MEDICAL OFFICERS OF HEALTH, &c.

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*(Presented to the County Council, November 2nd, 1905.)*



PRESTON:

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NCMV.



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# PUBLIC HEALTH COMMITTEE

(1905).

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The Chairman of the County Council :  
The Right Hon. Sir J. T. Hibbert, K.C.B.

The Vice-Chairman of the County Council :  
Sir William H. Houldsworth, Bart., M.P.

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*Chairman of Committee :*  
R. Sephton, Esq., C.C.

*Vice-Chairman :*  
James Fletcher, Esq., C.A.

## COUNTY COUNCILLORS—

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# REPORT

OF THE

## MEDICAL OFFICER OF HEALTH,

For the Year ending December 31st, 1904.

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*To the Right Hon. the Chairman and Members of the County  
Council of the County Palatine of Lancaster.*

GENTLEMEN.

I have the honour of presenting my sixteenth Annual Report on the health and sanitary administration of the County, together with a summary of the Annual Reports received from District Medical Officers of Health.

The death-rate, equal to 15·54 per 1,000 of the population—although not quite so low as in the previous year, when it was 15·22—is very favourable, and 1·29 less than the mean of the 10 years 1894-1903. It may also be pointed out that, accompanying a low death-rate, there is a further decline in the birth-rate, which now corresponds to 25·56 per 1,000 of the population, or the lowest County rate hitherto recorded. The infant death-rate, calculated per 1,000 births, was equal to 157, or 17 higher than 1903. The zymotic rate, equal to 1·93 per 1,000 of the population, while showing a slight

advance on the previous year, corresponded very closely with the average of the past decade (1·95). The most gratifying feature of the zymotic statistics was the diminution of small-pox, which occasioned 422 cases and 22 deaths, as compared with 1,156 cases and 68 deaths in the year preceding.

Reports were received concerning 134 County districts; of these 106 were printed, 15 type-written, and 13 in manuscript. In one case (Moss Side) statistical information only was supplied. A few of the reports came to hand rather late; the one for Adlington, received the last, did not arrive until the 2nd of August, 1905. The special reports supplied by Medical Officers of Health under Article 18 (16) of the Local Government Board Order, 1891, numbered 177, as compared with 159 in the previous year. These reports are published quarterly in tabular form. Monthly returns of deaths and cases of infectious disease notified or ascertained were received from all the County districts except Blackpool (B.) and Lancaster (B.).

From the Exchequer Contribution Account payments have been made towards the salaries of sanitary officials under Section 24 of the Local Government Act, 1888. Claims are now presented by 122 Authorities, *i.e.*, 17 boroughs, 83 urban districts, 19 rural districts, and 3 port sanitary authorities. The total payments during the year amounted to £9,245 8s. 3d., of which Medical Officers of Health received £4,180 11s. 5d., and Sanitary Inspectors £5 064 16s. 10d.

Additional efforts have been made to secure the purity of the food sold in the County; of the total samples (3,388) submitted to the Public Analysts under the Sale of Food and Drugs Acts, 246 or 7·23 per cent. were found to be adulterated, as compared with a percentage of adulterations equal to 7·42 in 1903. These offences resulted in 191 prosecutions and 142 convictions, with fines varying from 7d. to £50, the penalties

averaging £2 16s. 0 $\frac{1}{3}$ d. One effect of the action taken has been to stop the sale in the County of spurious brandy, and it is satisfactory to note that the application of the Merchandise Marks Act, 1887, has proved beneficial in causing a cessation of the practice of mixing ground olive stones with pepper.

I am, Gentlemen,

Your obedient servant,

EDWARD SERGEANT,

County Medical Officer of Health.

Preston, October 19th, 1905.





## THE COUNTY.

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**Area and Population.**—During the year 1904 the following changes took place in the constitution of the districts within the Administrative County:—

Blackpool (Borough).—Area in acres 3,601, population, 1901 census, 47,348; estimated population, 1904, 54,338; rateable value for County purposes, £393,624. On the 1st day of October, 1904, by the Local Government Board's Provisional Orders Confirmation (No. 13) Act, 1904, this district became a County Borough.

Moss Side.—Area in acres 421, population, 1901 census, 26,677; estimated population, 1904, 27,861; rateable value for County purposes, £127,276. On the 9th day of November, 1904, by the Manchester Corporation Act, 1904, the whole of this Urban District was absorbed by the City of Manchester.

Pemberton.—Area in acres 2,895, population, 1901 census, 21,664; estimated population, 1904, 22,722; rateable value for County purposes, £70,538. On the 9th day of November, 1904, by the Local Government Board's Provisional Orders Confirmation (No. 13) Act, 1904, the whole of this Urban District was transferred to the County Borough of Wigan.

Withington.—Area in acres 5,818, population, 1901 census, 33,770; estimated population, 1904, 37,000; rateable value for County purposes, £234,532. On the 9th day of November, 1904, by the Manchester Corporation Act, 1904, the whole of this Urban District was incorporated with the City of Manchester.

Burnley (R.) and Clitheroe (R.).—By the formation of the new township of Sabden, which was allocated to the Burnley Union, on the 1st of March, 1904 1,228 acres and a population of 880 were transferred from the Clitheroe Rural District to the Burnley Rural District.

In addition to the above, certain alterations affecting the area of the Administrative County were made during the year, but the respective Orders do not come into operation until 1905, and therefore do not affect this report, viz.:—  
 (a) Township of Ainsdale—a portion of the West Lancashire Rural District—transferred to the Urban District of Birkdale. (b) The Borough of Southport made into a County Borough. (c) The Order issued by the County Council 4th February, 1904, transforming Formby—a township in the West Lancashire Rural District—into an Urban District was rescinded August 4th, 1904, and this replaced the township into the Rural District.

The area of the Administrative County dealt with in this report continued the same as at the end of the previous year, viz.:—1,088,582 statute acres, until the alterations previously mentioned were effected, when the area was reduced 12,735 acres, leaving 1,075,847 as the total acreage of the Administrative County on the 31st December, 1904. At the census, 1901, the County acreage was 1,092,925, and since that time the area has been reduced by 17,078 acres, through the extension of County Boroughs and the creation of an additional County Borough. The Tables I. and III. appended (page 266 *et seq.*) give the acreage and population of each district.

The population, according to the estimates of Medical Officers of the districts under report to the middle of 1904, corresponded to 1,882,787, and on this the various rates are

calculated. The loss of population incurred by the withdrawal of Blackpool (B.), Moss Side, Pemberton, and Withington from the Administrative County is estimated at 141,921. As in previous years the estimate of the County population is exclusive of the residents of public institutions situated within the Administrative County, yet used for the reception of persons from districts outside the area.

The districts from which reports have been received, and therefore reviewed, remain the same as in 1903, viz., municipal boroughs 20, urban districts 96, and rural districts 19, a total of 135. At the end of 1904 there were 19 boroughs, 93 urban districts, and 19 rural districts, a total of 131.

Particulars as to area, population, and persons to an acre of the districts under review are given in the following Table :—

	Area in Acres (per Census Returns).	Population Estimated by Medical Officers of Health, 1904.	Persons per Acre.	Acres per Person.
Municipal Boroughs ...	86,745	634,216	7·31	0·13
Urban Districts .....	275,857	1,011,905	3·66	0·27
Rural Districts .....	725,980	236,666	0·32	3·06
Administrative County.	1,088,582	1,882,787	1·72	0·57

Births registered in the 135 districts during 1904 amounted to 48,136—in the urban districts 42,242, and in the rural districts 5,894—corresponding to a decrease of 1,500 as compared with the preceeding year.

The sex of the children born is given below :—

	Males.	Females.	Total.
Urban Districts .....	21,500	20,742	42,242
Rural Districts.....	2,933	2,961	5,894
Administrative County ...	24,433	23,703	48,136

The birth-rate corresponded to 25·56 per 1,000 of the population—urban 25·66 and rural 24·90, and was the lowest ever recorded for the County. The birth-rate for the County showed a diminution of 1·21, in the urban districts 1·38, and in rural districts 0·06, as compared with the previous year, while the rates were 2·22 for the County, 2·38 in urban, and 1·34 in rural districts less than the mean for the 10 years 1894-1903. The birth-rate for the County also bears unfavourable comparison with the rate for England and Wales, which in 1904 showed an excess of 2·4.

The Registrar General says that “the birth-rate in England and Wales in 1904 was 27·9 per 1,000 of the population, which is 0·5 per 1,000 below the rate in 1903 and lower than the rate in any other year on record; compared with the average in the ten years 1894-1903, the birth-rate in 1904 shows a decrease of 1·3 per 1,000.”

Attention may be drawn to the low County birth-rate, which for the past 10 years has shown a continuous decline both in the urban and rural districts, although in the latter it was least marked during the year under report. The County birth-rate does not favourably compare with England and Wales, as will be seen by the following

average rates extending over the past three quinquennial periods:—

Years.	Average Rate of Births per 1,000 of population.	
	Administrative County of Lancaster.	England and Wales.
1889-1893	30·67	30·5
1894-1898	28·76	29·7
1899-1903	26·81	28·6

The birth-rates of the whole of the County districts are given in Tables I. and III., page 266 *et seq.*, and it will be observed that in the residential localities, as the following, the birth-rates are the lowest:—Heysham 17·7, Southport (B.) 17·5, Bispham-with-Norbreck 17·4, Wardle 17·3, Morecambe (B.) 16·5, Heaton Norris 16·2, St. Annes-on-the-Sea 15·6, Little Woolton 15·5, Little Crosby 13·7, and Grange-over-Sands 8·0. In these districts many of the residents are “retired” after an active life, and in a position to provide servants to administer to their wants, consequently the ratio of young married couples rearing families is much lower than in the districts inhabited by the working class. There are also fewer children under the age of five years who, with their high mortality, swell the death-rates. The following districts are credited with the highest birth-rates; in them life is active, and the working-class residents—largely engaged in collieries—marry young, and are not deterred by prudential motives, viz., Haydock and Litherland each 39·5, Aspull 38·9, Skelmersdale 37·8, Ashton-in-Makerfield 37·5, Ince-in-Makerfield 36·7, Orrell 36·4, Gorton 36·0, Prescott 35·7 and Sefton (R.) 33·1. As bearing on the diminishing birth-rate, it may be pointed out that fewer

minors are married in England and Wales than 10 years ago, but the mean age of marriage has altered little, the average being 28 years for husbands and 26 for wives. The slight decrease in the marriage rate during the last few years cannot be responsible for the lowered birth-rate, for in 1904 it was 15·2 per 1,000 of the population as compared with 14·4 during the decennium 1881-90, when the average birth-rate was 32·5, and for that period the means of living were not so favourable as at the present time. Some other cause must be sought for to explain satisfactorily the decline in the birth-rate and gradually diminishing size of families, and it has been suggested that a large section of the population, unmindful of the old idea that children beget happiness, adopt the pernicious teaching of Malthus, from motives which in France have proved prejudicial to the State interests, and which may act importantly as a retarding influence on the future prosperity of this country.

Information has been supplied by 47 districts respecting 652 illegitimate births, and 172 or 26·3 per cent. of the infants died before the age of one year as compared with a percentage of 21·6 in 1903, 23 in 1902, 30 in 1901, and 33 in 1900. In the entire County the percentage of deaths of all children under the age of one year to total births was 15·7. The mortality of illegitimates was most marked in Aspull with 15 births 6 deaths, Billinge 5 births 3 deaths, Denton 10 births 5 deaths, Great Harwood 12 births 5 deaths, Hindley 34 births 13 deaths, Milnrow 3 births 3 deaths, Nelson (B) 18 births 8 deaths, Ormskirk 26 births 9 deaths, and Pemberton 20 births 15 deaths.

Deaths registered in the Administrative County numbered 29,260 or 1,938 more than last year. The excess of births over deaths amounted to 18,876 against 21,414 in 1903, 21,366 in 1902, and 18,816 in 1901. Of the total deaths 14,817 occurred among males—13,097 in urban and 1,720 in



rural districts—and 14,413 among females—12,893 in urban and 1,550 in rural districts. The ages at the time of death were as below :—

Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total.
7,599	3,703	1,163	1,176	9,263	6,356	29,260

The following Table gives a statement of County birth and death rates compared with England and Wales :—

	Birth-rate per 1,000 of the population.	Per 1,000 of the Population.		Death-rate from the seven principal Zymo- totic Diseases.	Rate of Infantile Mor- tality measured by the proportion of deaths of Infants under 1 year to 1,000 births.
		Urban Death- rate.	Rural Death- rate.		
England and Wales .....	27·9	*16·4	†15·3	1·94	146
		16·2			
76 large English Towns...	29·1	17·2	...	2·49	160
Administrative County of Lancaster {	Urban... 25·66	15·78	...	2·01	162
	Rural ... 24·90	...	13·81	1·37	124
Urban and Rural Dis- tricts combined .....	25·56	15·54		1·93	157

\* Refers to the 76 great towns and 112 smaller towns.

† Refers to the remainder of the country, including the small urban districts and the rural districts.

The male births again exceeded the female births—for the year under report the excess being equal to 1·51 per cent.; while the proportion of male deaths was 1·27 per cent. higher than that of the females. The excess of male over female deaths in the urban districts corresponded to 0·79, and in the

rural districts 5.19 per cent. In 1903 the urban mortality of males was 2.21 per cent. higher than that of females, and in the rural districts 3.59 per cent.

The death-rate for the County, equal to 15.54 per 1,000, was not quite so favourable as 15.22 in the previous year, and 15.26 in 1902, although it was lower than the mean (16.83) of the 10 years 1894-1903. The increase in the death-rates over 1903 was for the County 0.32, urban districts 0.34, and rural districts 0.12. As compared with the averages of the preceding decade the rates for 1904 show decreases equal to :— County 1.29, urban districts 1.34, and rural districts 1.21. The rate for the County was 0.8 per 1,000 below the rate for England and Wales, the urban and rural rates bearing equally favourable comparison. Below is given a table showing the County death-rates from 1894-1904 as compared with those of England and Wales.

Districts.	Rate per 1,000 of the Population.										
	1904.	1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.	1894.
Administrative County .....	15.54	15.22	15.26	16.28	17.19	17.60	16.58	17.48	17.38	19.16	16.16
Urban Districts.	15.78	15.44	15.43	16.58	17.46	17.88	16.80	17.82	17.76	19.63	16.42
Rural Districts..	13.81	13.69	14.08	14.21	15.26	15.65	15.09	15.55	15.25	16.57	14.87
England and Wales.....	16.2	15.4	16.3	16.9	18.3	18.3	17.6	17.4	17.1	18.7	16.6

The death-rates of the County districts varied from 26.7 in Skelmersdale, 21.9 Pemberton, 21.2 Swinton and Pendlebury, 20.6 Ince-in-Makerfield, 20.5 Trawden, and 20.0 Standish-with-Langtree, to 10.9 in Huyton-with-Roby, 10.6 Carnforth, 10.5 Grange-over-Sands, 10.4 St. Annes-on-the-Sea, 10.3 Little Crosby, 10.2 Heaton Norris, and 9.0 Childwall. As in 1903, the deaths taken cognizance of by medical officers of health refer to the nett deaths actually belonging



to each district, and, in accordance with the instructions of the Local Government Board, all deaths occurring in public institutions of persons not belonging to the district are excluded. This arrangement allows the exclusion of a large number of deaths from the local statistics which ought to be allocated to the areas—such as County Boroughs—to which they belong; for instance, 189 deaths which took place at the Fulwood Workhouse are excluded, as also the Workhouse deaths from the urban districts of Ormskirk, Wardle, and Withington—70, 250, and 849 respectively,—and the Asylum deaths, 152 which took place in Whittingham (Preston R.), and 295 in Rainhill (Whiston R.).

It may also be again pointed out that the effect of including in the statistics of local authorities deaths of non-residents, *unless occurring in public institutions*, has considerably increased the death-rates of certain much frequented health resorts: for instance, in Blackpool (B.) by the deaths of 128 persons staying temporarily in the town—96 of whom had been resident less than one month—the rate is 2·3 higher than it otherwise would be, while the rates of Lytham, Morecambe (B.), St. Annes-on-the-Sea, and Southport (B.) are raised 1·4, 1·8, 1·7, and 1·1 per 1,000 respectively.

**Infantile Mortality.**—The County rate of deaths under one year to 1,000 births was equal to 157, or 17 per 1000 more than last year and exactly the same as the mean for the 10 years 1894-1903. In the urban districts the rate averaged 162, and in rural districts 124, or an increase of 19 and 10 as compared with 1903. The infant mortality for the whole of England and Wales was 146, or 11 less than the average for the Administrative County. For the 76 great English towns the infant rate was 160, and for the 142 smaller towns 154. The following Table gives the County infant death-rates and those of England and Wales for the years 1894-1904.

Districts.	Deaths of Children under 1 Year to 1,000 Births.										
	1904.	1903.	1902.	1901.	1900.	1899.	1898.	1897.	1896.	1895.	1894.
Administrative County ...	157	140	139	161	162	175	168	169	155	171	134
Urban Districts	162	143	143	167	167	181	173	174	161	178	138
Rural Districts.	124	114	116	118	123	134	130	138	121	127	109
England and Wales .....	146	132	133	151	154	163	161	156	148	161	137

In the following districts the infant rates were excessive, averaging 200 and upwards, viz. : Farnworth 262, Bispham-with Norbreck 240, Trawden 232, Pemberton 230, Kearsley 229, Ince-in-Makerfield 226, Swinton and Pendlebury 224, Padiham 222, Adlington and Skehmersdale each 219, Heysham 216, Heywood (B.) 215, Billinge 206, Middleton (B.) 201, Little Lever and Abram each 200. Low rates were recorded in Rainford 68, Little Woolton 58, Clitheroe (R.) 54, Allerton 33, Childwall and Little Crosby nil.

It is far from satisfactory to note that although during the past decade there has been a continuous reduction in the County birth and death rates, yet the rate of infantile mortality remains exactly the same. As will be seen from the opinions contained in the summarised reports of local Medical Officers of Health, the evils which menace infant life are recognised, and special efforts have been made to combat them ; for instance, in Ashton-under-Lyne (B.), Eccles (B.), Lancaster (B.), &c., trained women are engaged to give instruction to mothers as to the feeding, clothing and bringing up of their children. In Radcliffe and other places, Nursing Classes have been inaugurated under the Technical Instruction Committee, and encouragement extended to mothers to take advantage of the instructions given, in the hope that by gaining knowledge on the important matter of care of young children some abatement may take place in the "slaughter of the innocents."

Much good might also be attained if the laws of health and domestic hygiene formed part of the curriculum of our elementary schools, and in order to qualify the teachers for imparting this knowledge to the children proper facilities should be offered by the Education Authority. Mothers should be taught that the prenatal conditions have an important bearing on the health and vigour of their offspring. In order to fortify the constitution of the children that may be born, and provide them with their natural food, prospective mothers should cultivate health. The necessity of cleanliness as applied to the person, clothing, bedding, food, and home generally, cannot be over-estimated, for it is among the dirty and improvident portion of the population that infant deaths are most numerous. Public authorities may also become contributory if owing to remissness in carrying out their duties they allow want of cleanliness of home surroundings to exist, such as unpaved yard and street surfaces, foul privy middens, defective drains, &c. The conditions obviously most favourable to child life are best secured when private cleanliness receives the support of the public authority.

The following extracts from the Reports of District Medical Officers of Health on the subject of Infant Mortality are full of interest :—

Adlington.—Dr. Mayes says the infantile death-rate is largely increased through the eagerness of mothers to return to work, and through ignorance as to feeding, &c.

Atherton.—Dr. Marsh states “a great need in the town is the presence of a trained woman who would devote the whole of her time to the teaching of mothers on the feeding, clothing, and general bringing up of their children.”

Audenshaw.—It is regrettable to find an increase in the infant rate due, no doubt, to “improper feeding and want of cleanliness, coupled with the nursing-out system.”

Bacup (B.).—The increase in the infant rate was, in the opinion of Dr. Brown, partly due to the "cotton corner." Many families suffered great privation owing to reduction of income, the result being that the children could not be fed or clothed properly. The main cause, however, is due to improper feeding generally, combined in many instances with want of care, owing to the children being neglected whilst the mothers go to work in the mills.

Billinge.—The rate of deaths of infants under one year of age is very high, and much above the average. This unsatisfactory state of things, says Dr. Mather, will continue so long as bottles with long feeding tubes are employed, and mothers fail to see the importance of giving suitable and properly prepared milk at feeding time, regulated according to the age of the infant. "

Birkdale.—The death-rate of children under one year shows a satisfactory improvement. Dr. Wheeler says, "a large number of children die annually from exposure, want of care, and improper feeding; it is difficult to make a lasting impression on mothers of the high value of milk only as a diet."

Church.—The Medical Officer of Health says the high infantile mortality is "a blot on the reputation of the township," which will continue so long as mothers practically sacrifice their offspring for the sake of speedily resuming their work in the mills.

Farnworth.—Dr. Kershaw refers to the prejudicial effects caused by the substitution of unsuitable food for mother's milk, and also by exposure to cold. The excessive infantile mortality—the highest in the County—calls for careful investigation, more than one-fourth of the children born die before reaching the age of one year. For 10 successive years, the rate of deaths of infants has exceeded 200 per 1,000 births.

Heywood (B.).—Dr. Hitchon believes that “the neglect of mothers to rear their offspring naturally contributes very largely to the enormous loss of life during infancy.” Sixty per cent. of the children under one year of age who succumbed during 1904 were “bottle-fed.” “The preference that married women have for millwork, rather than performing the very necessary but rather less interesting and more common place work in their homes, leads them to neglect the duty they owe their young.”

Ince-in-Makerfield.—The chief causes of the heavy infantile mortality are (*a*) diseases of the digestive organs, brought about by improper feeding, (*b*) weakness from birth and marasmus, (*c*) premature birth, and (*d*) diseases of the respiratory organs. Sheer poverty is, however, at the bottom of many cases of apparent neglect and improper feeding of young infants.

Lancaster (B.).—The establishment of a municipal milk depôt is recommended by Dr. Parker as one of the means of reducing infantile mortality. It was with a view of checking this appalling waste of human life that the Corporation in 1903 appointed a Lady Health Visitor. Every infant is visited as soon after birth as possible, and advice given to the mother as to the care and feeding. During the year under report, 692 infants came under observation, the total number of visits paid to these being 2,809. The majority of the visits are made to the courts, alleys, and slums of the town, where the habits of the occupants demand constant attention on the part of the Inspectors. Premature birth was returned as the cause of death in 27 instances. These deaths are largely due to the unhealthy conditions under which the mothers live, and to the labour to which they are subjected prior to the child being born.

Little Lever.—An analysis of the causes of death, says Dr. Pickford, unmistakably points to the necessity for greater

care on the part of mothers in matters relating to (1) their own health during the child-bearing period, (2) the feeding of infants, and (3) the provision of warm clothing, and avoidance of exposure to the early morning and night air.

Padliham.—The principal causes of this alarming mortality are, says Dr. Smithies (1) the mothers working for too long a period in the mills during pregnancy, (2) the very prevalent nursing-out system, and (3) indifferent feeding of infants.

Rawtenstall (B.).—Dr. Helm attributes much of the infantile mortality to improper feeding and undue exposure, the latter arising from the fact that many mothers resume work at the mill too soon after the birth of the infant, which has to be taken out to nurse in the early morning in all weathers. As a means of reducing this loss of infant life he asks his Council to consider (1) the advisability of appointing a nurse who has had special training in the management and feeding of infants, to instruct the mother in the proper method of preparing food and caring for delicate children; (2) the establishment of a depôt for the preparation and sale of sterilised and humanised milk; and (3) the issuing of printed instructions to parents generally dealing with feeding and clothing of infants.

Skelmersdale.—High rates are attributed by the Medical Officer of Health to the great want of employment in the district experienced during the year which led to more improper feeding of young children than is usual. This want of work and consequent scarcity of money rendered the epidemics of measles, diarrhœa, and whooping cough more than usually fatal on account of the lack of means to obtain proper nourishment or clothing for the sick children.

**The Seven Principal Zymotic Diseases, viz., small-pox, measles, scarlet fever, diphtheria and membranous**



croup, whooping cough, "fever," and diarrhœa gave rise to 3,650 deaths, or 12·1 per cent. of the total deaths from all causes. In the previous year there were 3,016 deaths, equal to 10·6 per cent. of all deaths; in 1902 the percentage was 9·9; 12·7 in 1901; 12·6 in 1900, and 13·5 in 1899. As compared with 1903, there was an excess of 132 deaths from measles, 4 from scarlet fever, 183 from whooping cough, and 488 from diarrhœa, and a reduction in small-pox of 46 deaths, diphtheria and membranous croup 79 deaths, and fevers 48 deaths.

The following Table gives the zymotic death-rates for 1904, compared with the 10 years 1894-1903:—

Year.	ANNUAL DEATH-RATE PER 1,000.							
	Seven Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhœa.
1894	1·49	0·02	0·23	0·27	0·12	0·29	0·22	0·32
1895	2·42	0·009	0·50	0·23	0·10	0·38	0·23	0·95
1896	1·94	0·005	0·49	0·24	0·09	0·36	0·23	0·48
1897	2·14	nil.	0·66	0·15	0·08	0·27	0·19	0·77
1898	1·89	0·0005	0·25	0·10	0·07	0·19	0·26	1·00
1899	2·37	0·0005	0·44	0·18	0·18	0·26	0·24	1·05
1900	2·07	0·0015	0·43	0·18	0·26	0·37	0·20	0·60
1901	2·07	nil.	0·18	0·18	0·34	8·20	0·20	0·95
1902	1·51	0·0119	0·35	0·20	0·30	0·19	0·16	0·28
1903	1·62	0·0366	0·37	0·18	0·19	0·26	0·15	0·40
Average 10 years	1·95	0·0085	0·39	0·19	0·17	0·27	0·20	0·68
1904	1·93	0·0116	0·43	0·18	0·15	0·35	0·12	0·66

\* Membranous Croup included for the first time. Average since 1899, 0·25.

The County rate equivalent to 1·93 per 1,000—in urban districts 2·01 and rural districts 1·37—was 0·31 higher than

in the previous year, and corresponded very closely to the rate for England and Wales, 1·94, and with the County average of 1·95 for the preceding 10 years. Tables I. and III., appended, contain the district zymotic death-rates, and below are tabulated the County rates from each of the seven principal zymotic diseases in 1904:—

ANNUAL DEATH-RATE PER 1,000.								
	Seven Principal Zymotic diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhoea
Administrative County of Lancaster .....	1·93	0·011	0·43	0·18	0·15	0·35	0·12	0·66
Urban Districts .....	2·01	0·011	0·45	0·19	0·15	0·37	0·13	0·69
Rural Districts .....	1·37	0·012	0·30	0·15	0·14	0·25	0·09	0·41
England and Wales..	1·94	0·01	0·36	0·11	0·17	0·34	0·09	0·86

In the following districts the zymotic rates were very high, viz.:—Little Lever 5·84, Pemberton 5·24, Skelmersdale 5·15, Golborne 5·14, Swinton and Pendlebury 4·96, Litherland 4·55, Orrell 4·41, Farnworth 4·23, Irlam 4·04, Haydock 3·57, Hindley 3·55, Ince-in-Makerfield 3·51, Much Woolton 3·38, Prescott 3·37, Newton-in-Makerfield 3·35, Atherton 3·25, Kearsley 3·15, and Heywood (B.) 3·06, while the rates were low in St. Annes-on-the-Sea 0·58, Kirkham 0·53, Clitheroe (R.) 0·51, Croston 0·47, Limesdale (R.) 0·43, Carnforth 0·32, Turton 0·31, and in Longridge, Huyton-with Roby, Grange-over-Sands, and Childwall, nil.

**Small-pox.**—There was a satisfactory reduction in the prevalence of this disease. Altogether 422 cases came under



observation, of which 22 had a fatal termination. During 1903, when the epidemic attained its maximum, there were 1,156 cases and 68 deaths. The following Table gives the cases and deaths which have taken place since 1890, inclusive, of the two epidemics which culminated in 1893 and 1903:—

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1890.....	1 .....	None.	1897.....	3 .....	None.
1891... ..	2 .....	„	1898.....	6 .....	1
1892.....	612 .....	70	1899 .....	16 ... ..	1
1893.....	1038 ....	84	1900.....	59 .....	3
1894.....	259 .....	25	1901.....	6 .....	None.
1895.....	100 .....	19	1902 .....	436 .....	22
1896.....	83 .....	10	1903.....	1156 .....	68

1904—422 Cases 22 Deaths.

The monthly incidence of the disease, as given below, shows that the greatest number of cases occurred in the first quarter, followed by the fourth, third, and second quarters respectively:—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.	
Jan. 43	6		April 33	1		July 32	1		Oct. 29	4	
Feb. 26	2		May 17	2		Aug. 37	1		Nov. 39	2	
Mar. 64	1		June 21	—		Sept. 34	1		Dec. 47	1	
133	9		71	3		103	3		115	7	

The districts affected with small-pox as given in the following Table, numbered 61 (53 urban and 8 rural), against 100 districts in 1903, 54 in 1902, and 3 in 1901. It may be noted that the districts most affected, viz., Ashton-under-Lyne (B.), Chadderton, and Hurst have from the commencement of the outbreak in the early months of 1902

held the most prominent position among the County districts attacked; in these districts vaccination is not well carried out, consequently the people are susceptible to small-pox.

DISTRICT.	No. of Cases.	No. of Deaths	DISTRICT.	No. of Cases.	No. of Deaths
URBAN.			<i>Brought forward..</i>	304	16
Accrington (B.) .....	4	..	Newton-in-Makerfield ..	1	..
Ashton-under-Lyne (B.) ..	117	*9	Orrell .....	3	..
Atherton .....	12	..	Padiham .....	2	..
Audenshaw .....	2	..	Pemberton .....	12	..
Bacup (B.) .....	4	..	Prestwich .....	2	..
Billinge .....	3	1	Rainford .....	2	..
Blackpool (B.) .....	5	..	Ramsbottom .....	8	1
Chadderton .....	49	2	Royton .....	7	..
Crompton .....	2	..	St. James-on-the-Sea ..	1	..
Darwen (B.) .....	2	1	Southport (B.) .....	7	2
Denton .....	5	..	Stretford .....	3	..
Droylsden .....	3	..	Swinton and Pendlebury	20	..
FaiIsworth .....	15	..	Tyldesley-w-Shakerley ..	1	..
Farnworth .....	1	..	Upholland .....	4	..
Fleetwood .....	1	..	Urnston .....	2	..
Fulwood .....	7	..	Walton-le-Dale .....	1	..
Gorton .....	13	..	Whitefield .....	2	..
Haslingden (B.) .....	1	..	Whitworth .....	1	..
Heaton Norris .....	5	..	Widnes (B.) .....	7	..
Heywood (B.) .....	10	1	Withington .....	5	..
Hurst .....	22	2	Worsley .....	1	..
Leigh (B.) .....	1	..			
Levenshulme .....	5	..	RURAL.		
Littleborough .....	1	..	Burnley .....	2	..
Little Hulton .....	1	..	Bury .....	1	..
Lytham .....	1	..	Fylde .....	1	..
Middleton (B.) .....	3	..	Garstang .....	1	..
Milnrow .....	1	..	Linnehurst .....	12	2
Morecambe (B.) .....	3	..	Preston .....	1	..
Mossley (B.) .....	1	..	Warrington .....	1	..
Moss Side .....	3	..	Whiston .....	7	1
Nelson (B.) .....	1	..			
<i>Carried forward..</i>	304	16	TOTAL .....	422	22

\*Two deaths occurred in January, 1904, amongst cases notified in the previous year.

The death-rate from small-pox corresponded to 0·011 per 1,000, as compared with 0·036 in the previous year and 0·011 in 1902, and the percentage of deaths to persons attacked was somewhat lower, namely, 5·2, as compared with 5·8. For England and Wales the small-pox death-rate was 0·01. Hospital isolation was carried out extensively, and no doubt had a great influence in keeping the epidemic within

bounds. Of the 422 cases dealt with, 411, or 97 per cent., received hospital isolation, and the usual precautions, embracing disinfection, school closure (in four instances), quarantine, vaccination and re-vaccination, &c., were in all the affected districts, without exception, carefully and effectually carried out. From the information obtainable respecting the total cases of small-pox, as tabulated below, it appears that among the vaccinated the rate of mortality at all ages was 3·7 per cent., as compared with a percentage of 8·6 among the unvaccinated, and persons showing no signs of vaccination. It is interesting to observe that vaccination gave absolute protection to persons under 25 years of age, while among the unvaccinated 6 of the 11 deaths took place under the age of five.

Age	Vaccinated.			Unvaccinated or Doubtful.			Total.		
	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.	Cases.	Deaths.	Mortality per cent.
0-5 years ...	3	...	...	15	6	35·2	18	6	30·0
5-10 „ ...	11	...	...	28	1	3·5	39	1	2·5
10-15 „ ...	8	...	...	35	...	...	43	...	...
15-20 „ ...	25	...	...	11	...	...	36	...	...
20-25 „ ...	29	...	...	8	...	...	37	...	...
25-35 „ ...	83	3	3·6	12	1	8·3	95	4	4·2
35-45 „ ...	77	4	5·1	7	1	14·2	84	5	5·9
45-55 „ ...	37	2	5·4	2	1	50·0	39	3	7·6
55-65 „ ...	20	2	10·0	3	...	...	23	2	8·6
65 years & over..	4	...	...	4	1	25·0	8	1	12·5
All ages ...	297	11	3·7	125	11	8·6	422	22	5·1

\* Two of these deaths occurred in January 1904, amongst cases notified in the previous years.

The baneful influence of the tramp in disseminating small-pox has not been so apparent as in previous years, although mention is made of infection being spread by him in Darwen (B.), Fulwood, Heywood (B.), Padilham, Bury (R.), Garstang (R.), etc. At a Conference which was held in

London, November 1904, to consider measures for preventing the spread of infection by tramps, an opinion was expressed that recognising the increasing amount of habitual vagrancy as the cause of widespread and disastrous consequences to the public health, more effective measures than are at present adopted should be taken for preventing the spread of infection by vagrants, and for effectually dealing with this great and growing danger by conferring on Local Authorities powers for the detention and isolation of any vagrant found wandering in a public place if reasonably suspected of being liable to convey infectious disease.

**Measles** contributed 827 deaths as compared with 695 last year, 653 in 1902, 332 in 1901, 857 in 1900, 862 in 1899, and 486 in 1898. The County death-rate corresponded to 0·43, in the urban districts 0·45, and in the rural 0·30. The rate for the whole of England and Wales was 0·36, and in 76 great English towns 0·47. The rate for the County was 0·06 higher than the rate for the preceding year, and 0·04 above the mean of the 10 years, 1894-1903. The incidence of 781 deaths from measles as recorded in the districts making monthly returns, is given below:—

1st Quarter.		2nd Quarter		3rd Quarter.		4th Quarter.	
January ...	106	April ... ..	84	July.....	45	October.....	43
February ...	79	May ..... 73		August.....	38	November.	75
March ..... 95		June ..... 50		September.	24	December..	69
	280		207		107		187

The greatest mortality took place in the first quarter, the second quarter came next, then the fourth and third quarters. Only 35 districts escaped without a single death being recorded from measles, as compared with 48 last year.

The highest rates were experienced in the following districts :—Little Lever 2·83, Skelmersdale 2·5, Oswaldtwistle 1·84, Swinton and Pendlebury 1·41, Barrowford 1·4, Clitheroe (B.) 1·38, Great Harwood 1·3, Clayton-le-Moors 1·29, Walton-le-Dale 1·24, Rawtenstall (B.) 1·18, Chadderton 1·12, Hindley and Trawden each 1·07, and Church and Padiham each 1·04.

In 68 districts schools were closed on account of the prevalence of measles among the infants, or an increase of 22 districts as compared with the previous year. This action is spoken of as having proved beneficial in many localities where adopted. Of the deaths from measles 209 or 25·2 per cent. were under the age of one year, 568 or 68·6 per cent. one year or under 5, and 50 or 6 per cent. 5 years and upwards. It is generally admitted that infants become less susceptible to the infection of measles after the age of five years. Infant schools contributed largely to the spread of the infection and were held responsible for a vast amount of sickness and accompanying mortality. As the law does not require children under the age of five to attend school it seems a pity that Local Education Authorities should allow them to do so. For the educational advantages which some advance as a reason for teaching infants are considered doubtful by those most competent to judge. In my opinion an infant under five is better outside a school undergoing the maximum of physical and mental development so much needed at this time of life. The other reason given for admitting infants to school is that there is an extensive demand in many districts on the part of women to be relieved of their responsibilities in order to go to work at the mill or elsewhere. Possibly many mothers would like to be relieved of their children at an earlier age than even three. Assuming that Education Authorities are responsible for carrying out nursing duties, one may suggest that every care should be taken to

render the nurseries as healthy as possible, and safeguard the infants from the danger of infection so frequently found in schools.

In reference to the influence of schools in spreading infection, the following quotations may be given :—

Heywood (B.). A very serious epidemic of measles occurred during the first half of the year, and it developed throughout the town very quickly. The disease was spread by means of school contact, and also by house-to-house infection. It affected chiefly very young children, especially those attending infants' schools. School closure was resorted to upon a large scale, and the closure did much to lessen the epidemic.

Little Hulton. Dr. Marsh, in referring to the constant recurrent outbreaks of infectious disease in infants' schools, says that "in my opinion not only would later attendance at school considerably reduce these epidemics, and the infant mortality, but would improve the mental and physical condition of the children."

Trawden. Dr. Skeen says, "that the habit of sending children as messengers to houses to enquire as to the cause of non-attendance of absentees should be stopped, pointing out that the house so visited might easily be infected either by measles or any other disease, and that the messenger might take the infection, and, through him others in the school."

Whitworth. On account of the prevalence of measles the infants' department of five schools were closed. In reference to this and other ailments Dr. Welsh reports that they are "generally spread by the association of the sick with the healthy at school, and the alteration made by the Education Authority in the withdrawal of what was termed the 'Epidemic Grant' has seriously increased the risks incurred. It is no common experience for the first intimation



of an outbreak in a school to be an application for a 'Closing Order.' on account of the great number of children away through illness. The time for action to stop the spread of disease has passed by, and the application is made to protect the school's financial position. It is also more difficult to exclude from attendance at school, children who are still capable of spreading infectious diseases, and there is the further tendency to press for the earlier return of convalescents."

Wigan (R.). Dr. Wilson states that, in his opinion, "school closure is the only effectual way of dealing with an outbreak of measles amongst children, and in my experience is very effective in this direction."

**Scarlet Fever** gave rise to 9,803 cases and 354 deaths, as compared with 10,182 cases and 350 deaths in the previous year, 9,153 cases and 374 deaths in 1902, 8,767 cases and 334 deaths in 1901, and 9,931 cases and 351 deaths in 1900. The County rate was equal to 0·18, 0·19 in urban districts, and 0·15 in rural districts. In 1903, the County and urban rates were exactly the same as in the year under report, but there was a slight reduction in the rate for the rural districts. The rate for England and Wales in 1904 corresponded to 0·11, and in 76 great English towns 0·12. The monthly incidence of scarlet fever in the districts making returns is given below :—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
Cases. Deaths.			Cases. Deaths.			Cases. Deaths.			Cases. Deaths.		
Jan.	782	28	April	717	29	July	759	18	Oct.	1040	17
Feb.	720	27	May	723	19	Aug.	693	26	Nov.	957	26
Mar.	763	35	June	629	23	Sept.	766	23	Dec.	718	23
2265 90			2069 71			2318 67			2715 66		

Table, page xxv., shows the annual rates of mortality from scarlet fever for 10 years 1894-1903. The percentage of deaths to cases notified was slightly higher than the previous year, viz., 3·6 against 3·4; in 1902 it was 4·0, in 1901 3·8, in 1900 3·5, and an average of 4·3 for the 1893-1904 decade. Of the total deaths from scarlet fever 17 or 4·8 per cent. were among children under the age of one year, 204 or 57·6 per cent. one year and under five, and 133 or 37·5 per cent. 5 years and upwards. In the following districts the distribution of scarlet fever was most marked, viz:—

	Cases	Deaths.	Removals to Hospital.
Aecrington (B.) . . . . .	157	6	0
Ashton-in-Makerfield . . . . .	128	7	56
Ashton-under-Lyne (B.) . . . . .	302	9	0
Atherton . . . . .	111	1	25
Birkdale . . . . .	110	5	69
Blackpool (B.) . . . . .	132	3	122
Chadderton . . . . .	147	4	12
Chorley (B.) . . . . .	179	5	162
Darwen (B.) . . . . .	689	22	90
Denton . . . . .	101	4	1
Eccles (B.) . . . . .	113	3	28
Farnworth . . . . .	200	6	174
Gorton . . . . .	140	5	20
Heywood (B.) . . . . .	101	3	0
Hindley . . . . .	137	6	0
Ince-in-Makerfield . . . . .	102	9	33
Lancaster (B.) . . . . .	138	3	69
Leigh (B.) . . . . .	693	28	266
Littleborough . . . . .	141	4	0
Middleton (B.) . . . . .	542	26	76
Newton-in-Makerfield . . . . .	104	4	17
Radeliffe . . . . .	300	13	57
Rawtenstall (B.) . . . . .	139	3	0
Royton . . . . .	147	11	18



	Cases	Deaths.	Removals to Hospital.
Southport (B.) . . . . .	333	10	261
Swinton and Pendlebury . . . .	211	13	27
Tyldesley-with-Shakerley . . . .	108	1	43
Chorley (R.) . . . . .	115	5	66
Leigh (R.) . . . . .	113	3	82
Ulverston (R.) . . . . .	121	2	33
West Lancashire (R.) . . . . .	115	2	61

Of the total cases of scarlet fever 2792 or 28·48 per cent. received hospital isolation against a percentage of 28·6 last year, 25·92 in 1902, and 23·54 in 1901. The adoption of hospital isolation varied largely according to the opinion held by the Local Authority on this subject, influenced by a tender regard for economy which in some instances resulted in not taking the ordinary precautions to prevent the spread of infectious disease. The highest percentages of removal are reported from Bispham-with-Norbreck and Kirkham 100, Blackpool (B.) 92, Chorley (B.) 90, Ormskirk 88, Farnworth and St. Annes-on-the-Sea each 87, Widnes (B.) 79, Southport (B.) 78, Morecambe (B.) 75, Leigh (R.) 72, and Stretford 71. No removals took place from the following districts although the disease spread extensively:--Accrington (B.), Ashton-under-Lyne (B.), Heywood (B.), Hindley, Littleborough and Rawtenstall (B.)

Details are given in the summarised reports appended as to the action taken for combating this disease in addition to hospital or home isolation, which includes school closure in 27 districts, quarantine, disinfection, &c.

Medical Officers of Health of Abram, Atherton, Middleton (B.), Rawtenstall (B.), Leigh (B.), Tyldesley-with-Shakerley, Wardle, Burnley (R.), draw attention to the spread of scarlet fever due to the carelessness of parents in visiting infected houses or exposure of their children while suffering

from the disease; in a few instances the parents were summoned. The mildness of the disease, allowing unrecognised cases to attend school, or associate with the healthy, influenced the spread of infection in Eccles (B.), Farnworth, Littleborough, Little Hulton, Radcliffe, St. Annes-on-the-Sea, Leigh (R.), and West Lancashire (R.). Several Medical Officers of Health refer to the valuable assistance derived from hospital isolation and quarantine, and as bearing on efficient disinfection and "return cases," Dr. Harris (Chorley (B.)) expresses his opinion that in some cases the more valuable articles of clothing are wilfully concealed, and that re-infection occurs in those houses when the articles are again brought into use. On more than one occasion, after an interval of some weeks, and whilst the patient was still in hospital, a second case has been notified from the same house, though every endeavour had been made to thoroughly disinfect the house and clothing.

**Whooping Cough** was credited with 676 deaths (616 urban and 60 rural) as compared with 493 in the preceding year, 351 in 1902, 378 in 1901, and 727 in 1900. The County rate rose from 0·26 in 1903, and an average of 0·27 for the past decade to 0·35 in the year under report. The urban rate was 0·37, and the rural 0·25, both in advance of the previous year. The rate for England and Wales was 0·34, and for 76 great English towns 0·40. In districts supplying returns, 613 deaths came under notice, of which 183 occurred in the first quarter, 203 in the second quarter, and 121 and 106 in the third and fourth quarters respectively. Of the total deaths 52·6 per cent. were under 1 year, 45·5 per cent. 1 year to 5 years, and 1·7 per cent. 5 years and upwards. The fatalities were most numerous in the following districts:—Accrington (B) 14, Bacup (B) 24, Darwen (B) 28, Eccles (B) 22, Haslingden (B) 13, Heywood (B) 20, Hindley 35, Leigh (B) 13, Nelson (B) 15, Newton-in-Makerfield 18, Swinton and Pendlebury 22,

and Waterloo-with-Seaforth 14. Schools were closed in consequence of whooping cough in 11 districts.

**Diphtheria and Membranous Croup** occasioned fewer cases and deaths than in any previous year—the deaths numbered 290, cases 1,644. In 1903 information was obtained of 369 deaths, 2,134 cases; in 1902, 563 deaths, 2,833 cases; and in 1901, 636 deaths, 3,242 cases. The County rate averaged 0·15 per 1,000 of the population (in the urban districts 0·15, and in rural districts 0·14) as compared with 0·19 the total rate for the previous year, and an average of 0·25 since 1899, when membranous croup was first included under the same heading as diphtheria. Table V. in the appendix shows that the first quarter had the largest number of cases, closely followed by the last quarter, and in the second quarter the fewest fatalities were recorded. Of the total deaths 6·2 per cent. were under 1 year, 56·5 per cent. 1 and under 5 years, 37·2 per cent. 5 and upwards. The following districts had the most numerous attacks, viz :—

	Cases.	Deaths.	Removals to Hospital.
Atherton .....	52	9	0
Blackpool (B.) .....	37	10	4
Brierfield .....	63	8	16
Darwen (B.) .....	34	7	0
Eccles (B.) .....	32	7	18
Horwich .....	30	3	0
Radcliffe .....	35	4	10
Southport (B.) .....	36	2	3
Stretford .....	64	10	40
Swinton and Pendlebury....	56	7	10
Ulverston .....	72	8	46
Waterloo-with-Seaforth ....	43	4	17
Widnes (B.) .....	47	14	22
Worsley .....	32	2	2
Barton-upon-Irwell (R.) ....	30	7	9

In forty districts there was an absence of deaths from diphtheria and membranous croup. Schools were closed in four districts in consequence of diphtheritic prevalence, viz.: Brierfield, Poulton-le-Fylde, Stretford, and Burnley (R.)

The following extracts from reports of Medical Officers of Health show how diphtheria may be distributed:—

Brierfield.—The most noticeable feature of the year was an outbreak of diphtheria. A family went to Lincolnshire for the August holidays, and whilst there all suffered from an attack of sore throat, and one died. On their return relatives and neighbours were attacked, one of the latter introducing the complaint into the Catholic school, where the personal contact of children had an important influence in the dissemination of the disease. This school was closed for a fortnight, and thoroughly disinfected, and pamphlets were distributed warning the inhabitants to call in medical aid in case of sore throat. Altogether diphtheria caused 63 cases and 8 deaths.

Poulton-le-Fylde.—Diphtheria together with sore throat was responsible for much sickness, many cases not being medically attended. There is every reason to believe that aggregation of infected children in the National school caused the spread of the disease. The school was closed for a short period, and certain sanitary improvements carried out.

Ulverston.—The epidemic of diphtheria has in the main been due to infection through school attendance and not to contaminated milk or water supplies, or to defective sewage.

Widnes (B.).—At the request of the Local Government Board a special report was prepared respecting this disease, from which it appears that the majority of the cases occurred in the immediate vicinity of open privies and ashpits. In two instances the drainage was found to be defective. Dr. MacLennan states that in many cases he observed cats eating

garbage thrown into the open ashpits, and he fears that, having regard to the general tenderness of children towards these animals, a cause of infection may be found in this fact.

**Fever**, including typhus fever, enteric (typhoid) fever, and other continued fever, caused altogether 1,268 cases, and 236 deaths. Of these, typhus was responsible for 2 cases, no death; enteric fever 1,235 cases, 233 deaths, and continued fever, 31 cases, 3 deaths. As compared with the previous year, typhus was reduced by 4 cases 3 deaths, enteric fever by 244 cases and 44 deaths, and continued fever by 9 cases and 1 death. The "fever" death-rate per 1,000 of the population—the lowest hitherto recorded—was 0·12 for the County, 0·13 in urban districts, and 0·09 in rural districts. In the previous year the County, urban, and rural rates were each equal to 0·15, and the County average for 10 years, 1894-1903, was 0·20. The death-rate for the whole of England and Wales in 1904 corresponded to 0·09, and 0·10 in 76 of the great English towns.

The case mortality, or proportion of deaths to cases, was 18·6, exactly the same as in 1903. In 1902 it averaged 16·9, in 1901 17·1, and in 1900 17·8. The monthly incidence in the districts making returns was as follows:—

1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Jan. 99	23	April 70	12	July 50	8	Oct. 176	28
Feb. 89	16	May 52	11	Aug. 99	11	Nov. 142	31
Mar. 68	16	June 56	7	Sept. 176	21	Dec. 115	26
256	55	178	30	325	40	433	85

In 50 districts there were no "fever deaths," but there was a marked prevalence in Accrington (B.) 30 cases 7 deaths,



Eccles (B.) 36 cases 8 deaths. Farnworth 34 cases 6 deaths. Gorton 35 cases 5 deaths. Lancaster (B.) 36 cases 3 deaths. Leigh (B.) 36 cases 12 deaths. Swinton and Pendlebury 42 cases 11 deaths. Tyldesley-with-Shakerley 38 cases 6 deaths. and Widnes (B.) 41 cases 8 deaths.

Again attention is called to the conditions which give rise to this disease, namely, noisome privy middens, fæcally sodden and unpaved back yards, defective drainage, and want of public and private cleanliness. In many of the districts mentioned sufficient care is not paid to these matters, consequently enteric fever continues endemic, while the Local Authorities persistently neglect their duties.

The reports of Medical Officers of Health contain several instances where contaminated water gave rise to typhoid fever, as at Rawtenstall (B.), Tottington, Burnley (R.), Freckleton—a district of the Fylde (R.), and West Lancashire (R.). At Hindley and St. Annes-on-the-Sea the suspected cause was shell fish (cockles), and the following quotations show how the disease may have a faecal origin —

Eccles (B.). There is little doubt, says Dr. Hamilton, that “a number of the typhoid fever cases were attributable to the deposit of the excreta and urine in the privy midden attached to the house of a patient who had been ill a fortnight before being diagnosed. The disease appears to have spread to neighbouring houses through infected excreta deposited on the privy midden drying through the heat and being blown in fine dust on to food, or possibly carried by flies to food or milk.”

Radeliffe. To reduce the prevalence of typhoid fever the Medical Officer of Health suggests that the water-carriage system be substituted in all possible cases for the midden privies. To the number of midden privies in Stand Lane Ward is attributed the fact that more cases were notified from that ward than from all the other wards put together.

Widnes (B.). Investigations were made respecting an outbreak of this disease in the neighbourhood of Cromwell Street and Nelson Street. It was found that many of the houses attacked were provided with deep, wet, and foul ash-pits; the yards badly paved; and other insanitary conditions were noted. Dr. Brebner, the assistant Medical Officer of Health, who made this investigation, states that "typhoid fever has occurred in this district for years, and there is no doubt that the bad state of the sanitary conveniences, if it does not actually cause the outbreaks, contributes largely to them."

**Diarrhœa.**—The instructions issued by the Local Government Board state that—

Under the heading of "Diarrhœa" are to be included deaths certified as from diarrhœa, alone or in combination with some other cause of ill-defined nature; and also deaths certified as from

Epidemic enteritis;

Zymotic enteritis;

Epidemic diarrhœa, summer diarrhœa;

Dysentery and dysenteric diarrhœa;

Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic cholera).

Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter.

The total deaths from diarrhœa as above defined amounted to 1,245, as compared with 757 in 1903, 519 in 1902, 1,752 in 1901, and 1,187 in 1900. The County rate was equal to 0·66 per 1,000 of the population—in urban districts 0·69, and in rural districts 0·41—while the rates were, in 1903, 0·40 in the County, 0·42 in urban, and 0·26 in rural districts. The whole of England and Wales in 1904 averaged 0·86, and 76 great English towns 1·2. The mean County rate for the



10 years 1894-1903 was 0·68, or fractionally higher than the year under review.

The highest rates were recorded in Farnworth 3·15, Pemberton 2·94, Golborne 2·71, Orrell 2·57, Litherland 2·41, Prescott 2·33, Ince-in-Makerfield 2·18, Irlam 2·12, Atherton 1·77, Newton-in-Makerfield 1·70, Little Lever 1·69, Swinton and Pendlebury 1·66, Fleetwood 1·62. Blackrod 1·53, Haydock 1·47, and Ashton-in-Makerfield 1·44. Below is given the monthly incidence of the diarrhœa deaths as ascertained from districts making returns :—

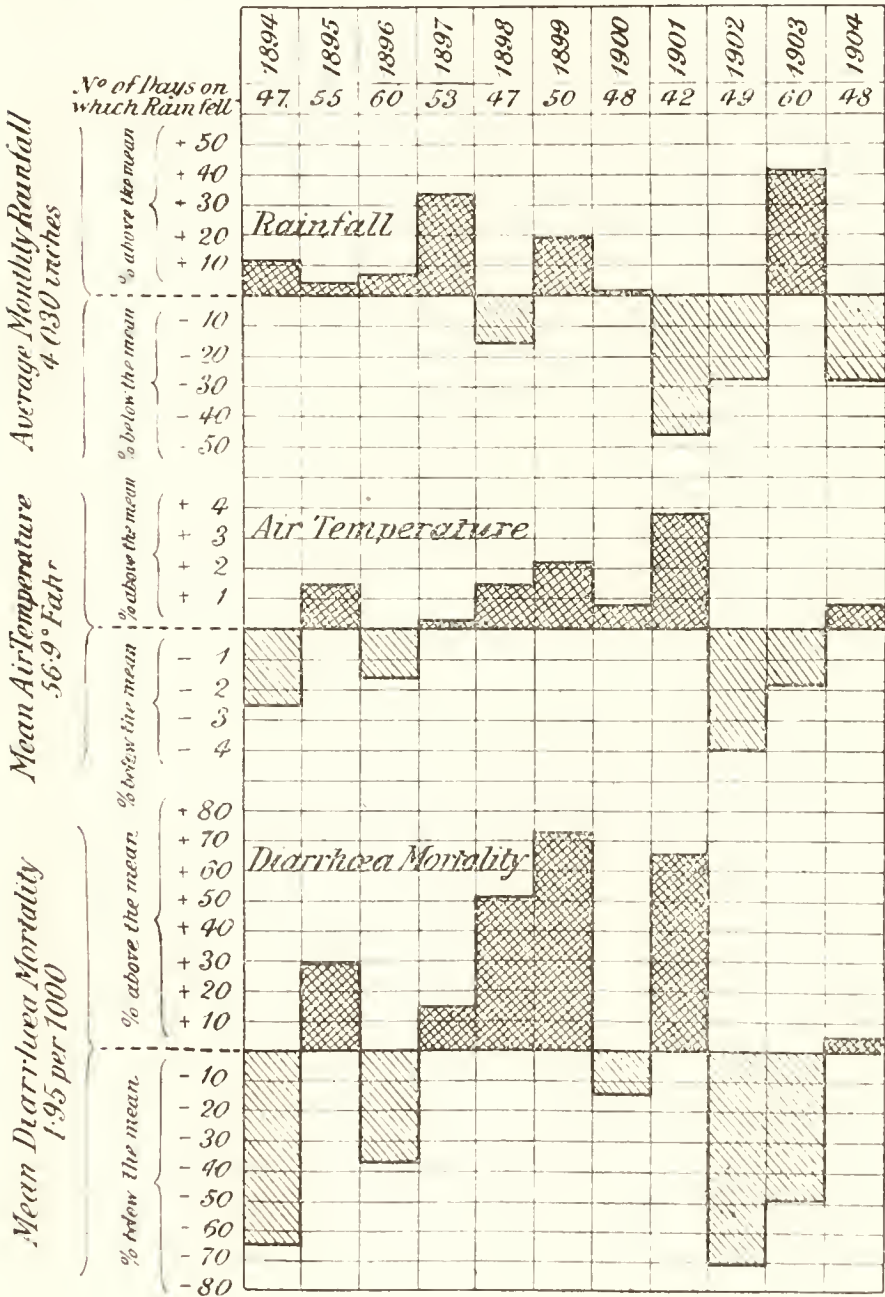
1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
January ... 11	April ..... 15	July..... 53	October ...145
February ... 21	May ..... 19	August ...469	November. 38
March ..... 14	June ..... 31	September.392	December.. 14
46	65	914	197

The County diarrhœa rates, compared with those of England and Wales and the 76 great towns, for the years 1904-1894 are given in the Table below :—

	1904	1903	1902	1901	1900	1899	1898	1897	1896	1895	1894
Administrative County..	0·66	0·40	0·28	0·95	0·60	1·05	1·00	0·77	0·48	0·95	0·32
Urban Districts .....	0·69	0·42	0·30	1·01	0·65	1·12	1·06	0·80	0·52	1·04	0·35
Rural Districts .....	0·41	0·26	0·14	0·52	0·27	0·53	0·55	0·56	0·28	0·44	0·16
England and Wales ....	0·86	0·50	0·38	0·91	0·69	0·98	0·96	0·86	0·55	0·88	0·31
*76 Large English Towns	1·20	0·71	0·54	1·23	0·94	1·21	1·22	1·24	0·79	1·19	0·50

\* The rates for 1894-1901 refer to 33 Towns.

Below is shown diagrammatically the diarrhœa deaths which occurred in the Administrative County during the summer quarters (July, August, and September) of 1904, and the preceding ten years, together with the mean temperature, rainfall, and number of wet days (Stonyhurst) :—



During the summer quarter of 1904 the conditions favourable to the propagation of diarrhœa existed, namely, a rainfall 28·2 per cent. below the average, and the air temperature fractionally (0·8) above the average—as a result the deaths were 5·6 per cent. above the mean mortality, and compared unfavourably with the two preceding years 1902 and 1903 when the diarrhœa mortality was equal to 70·7 and 49·7 per cent. respectively below the mean. Climatic conditions productive of diarrhœa have most effect in localities where personal and public cleanliness receives least attention, and the injurious consequences are mostly felt among the sensitive young—for instance, 76·9 per cent. of the total diarrhœa deaths which occurred during the year under report, were under the age of one year 17·1 per cent. one year old and under five years, and 5·8 per cent. five years old and upwards. In order to minimise the causes productive of diarrhœa, it is satisfactory to observe that certain well-conducted districts inaugurate special flushing of streets and sewers, more attention is paid to scavenging, sterilised milk depôts are opened, and printed circulars giving particulars as to the necessity of cleanliness and the proper principles to be adopted in the feeding of children, &c., are disseminated.

**Enteritis** occasioned 734 deaths, against 664 last year, 653 in 1902, and 896 in 1901. According to the instructions of the Local Government Board, under the heading of enteritis are to be included deaths certified as from gastro-enteritis, muco-enteritis, and gastric catarrh. In order to avoid error and secure reliable statistics, medical practitioners should use the term “epidemic-enteritis,” (or, if preferred, zymotic enteritis), as synonyms for epidemic diarrhœa.

**Epidemic Influenza** was credited with 196 deaths, the lowest number recorded 1896, and 28 less than in the previous year. In 1897 there were 337 deaths, 268 in 1898, 489 in 1899, 801 in 1900, 231 in 1901, and 226

in 1902. The deaths were most numerous in Accrington (B.) 15, Southport (B.) 8, Withington 7, and Bacup (B.), Darwen (B.), Heywood (B.), and Middleton (B.) 6 each. As in 1903, the disease proved most fatal in the first quarter, the fourth quarter came next, then the second and third quarters followed with the fewest fatalities from this cause.

**Respiratory Diseases**, comprising bronchitis, pneumonia, and pleurisy, contributed 5,424 deaths or 18·5 per cent. of the total mortality. In 1903, there were 4,996 deaths from respiratory diseases, equal to 17·7 per cent. of total deaths; 1902, 5,469 with a percentage of 19·4, and 1901, 5,307 with a percentage of 17·8.

Below are given the respiratory death-rates per 1,000 of the population:—

	1904	1903	1902
Urban Districts .....	2·94	2·80	3·04
Rural Districts .....	2·42	1·96	2·44
Administrative County ..	2·88	2·60	2·90

The County rate for the 10 years 1894-1903, averaged 3·22, the rate for 1904 is therefore 0·34 below the decade and with the exception of last year is the lowest yet recorded. The highest respiratory death-rates were attained in Childwall 9·09 (two deaths only), Ince-in-Makerfield 5·70, Brierfield 5·13, Swinton and Pendlebury 4·96, Blackrod 4·87, Ormskirk 4·81, Whitworth 4·66, Leigh (R.) 4·50, Hindley 4·43, Skelmersdale 4·37, Haydock 4·31, Croston 4·24, Gorton 4·13, Ulverston 4·07, Ormskirk 4·04, Orrell 4·04, and Church 4·02.

**Heart Diseases** accounted for 2,420 deaths, or 1 more than last year. The rate per 1,000 was 1·28, against 1·3 in 1903, 1·24 in 1902, 1·27 in 1901, and 1·33 in 1900. The

average for the 10 years 1894-1903 corresponded to 1.25 per 1,000 of the population.

**Tuberculous Phthisis** was productive of 1,707 deaths, or 37 more than the previous year. Below is tabulated the death-rates per 1,000 of the population ;—

	1904	1903	1902
Urban Districts.....	0.92	0.92	0.94
Rural Districts .....	0.70	0.76	0.78
Administrative County ..	0.90	0.90	0.92

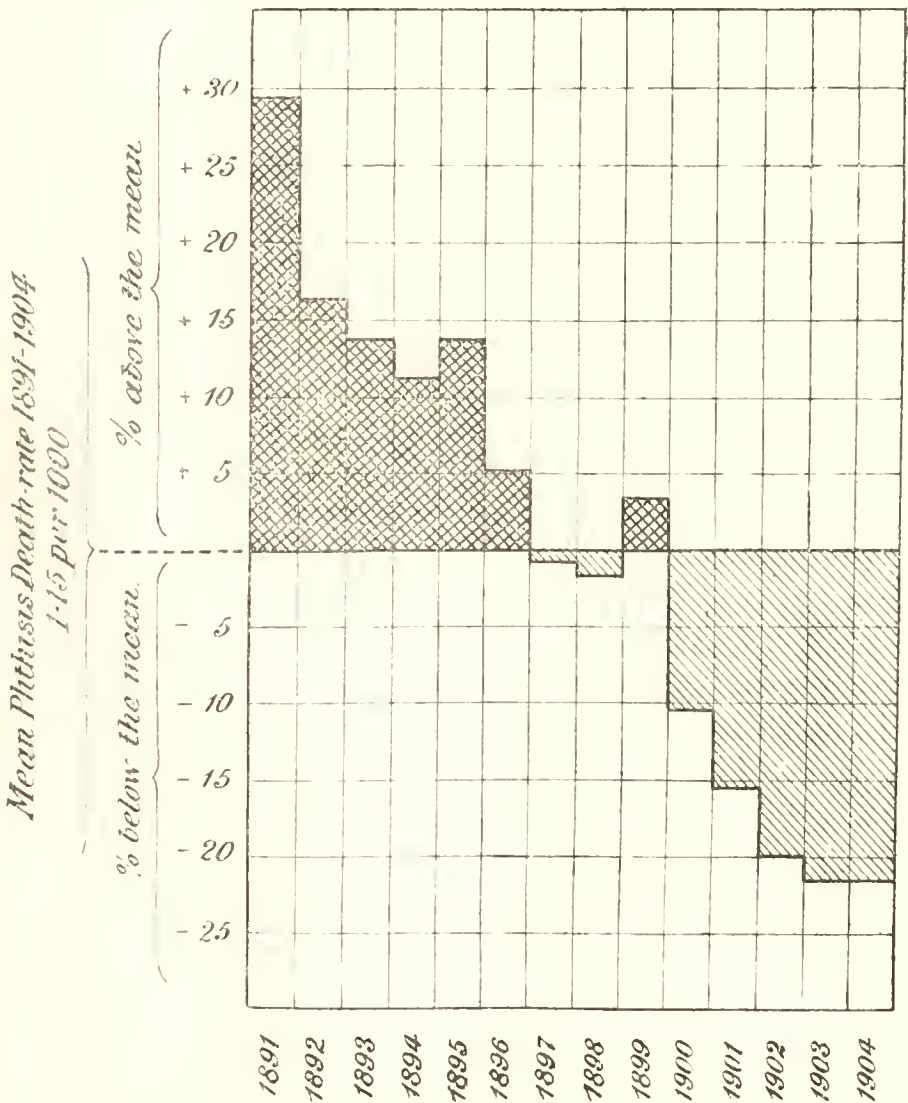
It will be observed that the phthisis deaths, calculated on a higher population, give a death-rate of 0.9, which corresponds exactly with 1903, the lowest rate ever recorded in the County. The average for the 10 years (1894-1903), is equal to 1.1, or 0.2 above the rate for the year under review. The reduction in the mortality as compared with the mean of the past decade represents a saving of 376 lives annually, in addition to a vast amount of attendant sickness. As might be expected, the phthisis rate was 0.22 higher in the urban than in the rural portions of the County, and for the past decade the urban rate exceeded by 0.19 the rural rate. The highest phthisis rates for the year were recorded in Clitheroe (R.) and Croston, each 1.88, Whitworth 1.87, Pemberton 1.80, Little Crosby 1.72, Longridge 1.62, Kirkham 1.61, Royton 1.56, Milnrow 1.54, Heywood (B.) 1.53, Chadderton 1.51, Gorton 1.43, Prescott 1.42, and Walton-le-Dale 1.41.

If separate account were taken of the mortality at several ages it is likely that phthisis among young persons of both sexes at ages from 15 to 35 would account for a higher death-rate in rural than in urban districts, whilst at all other ages the reverse would be the case. The explanation, according to



the Registrar-General, being that as a rule the more vigorous young people are attracted to towns in expectation of lucrative employment. A portion, however, of these fall victims to phthisis, and eventually return to their native places for the chance of recovery, but in case of death the local records are unduly swollen.

The diagram below shows the annual County deaths from tuberculous phthisis from 1891-1904 in relation to the mean of that period.



Notwithstanding the effect of improved sanitation and the increased attention paid to the principles of hygiene in reducing the tuberculous death-rate during the past decade, more can be done curatively in the first stage of the disease by what is known as the "open air" treatment. It should also be borne in mind that the County Council have power to apply the provisions of the Isolation Hospitals Act, 1893, with the approval of the Local Government Board, to pulmonary tuberculosis, and may constitute one or more hospital districts for the provision of accommodation for its treatment.

The deaths from other tubercular diseases, including tuberculous meningitis, tuberculous peritonitis, tabes mesenterica, general tuberculosis, and tuberculous diseases of other parts of the body numbered 953—these together with the 1,707 deaths due to tuberculous phthisis, amounted to 2,660 deaths or equivalent to a rate of 1.41 per 1,000, against 1.38 last year, 1.35 in 1902, and 1.50 in 1901.

The following districts have made arrangements for the voluntary notification of phthisis, viz.:—Accrington (B.), Ashton-under-Lyne (B.), Atherton, Birkdale, Eccles (B.), Leigh (B.), Levenshulme, Little Hulton, Little Lever, Much Woolton, Newton-in-Makerfield, Southport (B.), Stretford, Ulverston, Waterloo-with-Seaforth, and Garstang (R.). In several districts, for instance Blackpool (B.), Haslingden (B.), Leigh (B.), Litherland, Much Woolton, St. Annes-on-the-Sea, Waterloo-with-Seaforth, Withington, &c., disinfection of bedding and clothing is available in case of death from this disease.

**Infectious Diseases Notification.**—The total notifications of infectious diseases amounted to 17,605, or 2.067 fewer than in the previous year, and 1,609 less than in 1902. As compared with 1903 the notifications were decreased by the following:—small-pox 734, scarlet fever 379, diphtheria 474, enteric (typhoid) fever 244, whooping cough 276, and chicken-pox 142. In the following Table the notified cases for 1904 as well as those for the previous year are classified:—



Diseases.	1904.			1903.		
	Urban District.	Rural District.	Total.	Urban District.	Rural District.	Total.
Small-pox .....	396	26	422	1047	109	1156
Scarlet Fever ...	8746	1057	9803	9303	879	10182
Diphtheria .....	1331	165	1496	1700	270	1970
Membranous						
Croup .....	130	18	148	138	26	164
Typhus Fever ..	2	...	2	6	...	6
Typhoid Fever..	1102	133	1235	1315	164	1479
Continued Fever.	28	3	31	40	...	40
Puerperal Fever..	131	9	140	138	15	153
Erysipelas.....	1297	173	1470	1223	115	1338
Measles .....	1333	430	1763	1340	342	1682
Whooping Cough	233	97	330	537	69	606
Chicken Pox.....	749	...	749	882	9	891
Rötheln .....	13	...	13	5	...	5
Relapsing Fever..	1	1	2	...	...	...
Cholera .....	1	...	1	...	...	...
Total .....	15493	2112	17605	17674	1998	19672

Measles was notifiable with the consent of the Local Government Board in the following districts:—Blackpool (B.), Southport (B.), Standish-with-Langtree, Thornton, and Lunesdale (R.). Dr. Watkins (Newton-in-Makerfield) last year advocated the inclusion of measles in the list of notifiable diseases, but after correspondence with the Local Government Board, and interviews with Medical Officers of Health of large towns, he came to the conclusion that its notification was not desirable at present, owing to the many difficulties in effectually dealing with this disease.

In consequence of the prevalence of small-pox and the possibility of mild cases being mistaken for chicken-pox, the latter disease was made notifiable, under the provisions of the Act, for various periods in Abram, Ashton-in-Makerfield, Bacup (B.), Billinge, Blackpool (B.), Chadderton, Haydock, Lancaster (B.), Newton-in-Makerfield, Southport (B.), and

Lunesdale (R.). The voluntary notification of phthisis has been attempted in several large districts, but to quote an opinion expressed “very little use has been made of it by the medical profession.”

**Isolation Hospitals.**—The present position of the County with regard to hospital provision is tabulated below. The statement shows that during the year many districts have made arrangements for sending their infected sick to hospitals belonging to neighbouring Authorities, consequently there has been a reduction in the number of districts entirely without accommodation; in fact, there are now only four districts, with a population estimated at 22,273 so situated.

	Boroughs.	Urban Districts.	Rural Districts.	Total	Estimated Population.	Average (per Census Return)
Districts with Hospitals ... ..	9	35	9	53	873949	587554
Districts with Small-pox Hospitals only... ..	8	19	5	32	471579	278361
Districts with Hospital Schemes in progress* ... ..	...	8	1	9	84413	34103
Districts claiming the privilege of sending patients to Hospitals in other Districts ... ..	3	30	4	37	430573	181724
Districts without Hospital accommodation ... ..	...	4	...	4	22273	6840
Total ... ..	20	96	19	135	1882787	1088582

\* In addition, 14 districts (already included in other columns) are combined under the Wigan and District Joint Hospital Order for the purpose of providing a Small-pox Hospital.

Table (A) appended gives the names of the various County districts, with their exact position as to infectious hospital accommodation.

TABLE (A).

## HOSPITAL PROVISION IN VARIOUS DISTRICTS OF THE ADMINISTRATIVE COUNTY.

(PARTICULARS TAKEN FROM THE HEALTH REPORTS FOR THE YEAR 1904).

Districts with Hospital.		Districts with Hospital Schemes in progress.	Districts claiming the Privilege of sending Patients to Hospitals as printed in parentheses.	Districts without Hospital Accommodation
Abram. Ashton-in-Makerfield. a Ashton-under-Lyne B. Birkdale. § Blackpool B. * Carnforth. Darwen B. Heysham. Ince-in-Makerfield. Lancaster B. Morecambe B. Lathom & Burscough } Ormskirk. } Pemberton. Southport B. Walton-le-Dale. Widnes B. Withington. Atherton. Golborne. Leigh B. Tyldesley. Leigh R. Farnworth. Little Hulton. * Little Lever. Adlington. Chorley B. Leyland. Chorley R. Dalton-in-Furness. Ulverston. Ulverston R. West Lancashire R. Fleetwood, Kirkham. Lytham. St. Annes. Poulton. * Thornton. Bispham. Fylde R. Brierfield. Padiham. Burnley R. * Lunesdale R.	Whiston R. Radcliffe. Ramsbottom. Tottington. Whitefield. Bury R. Withnell.  (53)  FOR SMALL-POX ONLY. Accrington B. Billinge (Cottage). d Chadderton. d Crompton. d Royton. e Colne B. f Gorton. Haslingden B. Heywood B. * Hindley. * Irlam. Mossley B. Nelson B. * Norden. * Oswaldtwistle. Rainford (Cottage). * Rawtenstall B. * Skelmersdale (Cottage). * Standish-with-Langtree (Cottage). Whitworth. g Sefton R. (Cottage). Preston R. Fulwood. * Longridge. Garstang R. * Preesall. * Wigan R. (Cottage). h Swinton and Pendlebury. h Worsley. Upholland (Tent). * Clitheroe B. * Clitheroe R.	Horwich. Westhoughton. Blackrod. Littleborough. Milnrow. Wardle. i Audenshaw. j Hurst. j Limehurst R.  (9)  Abram. Ashton-in-Makerfield. Aspull. Billinge. Blackrod. Hindley. Horwich. Ince-in-Makerfield. Orrell. Pemberton. Standish-with-Langtree. Upholland. Westhoughton. Wigan R.	Joint hospital approaching completion.  <	

\* Not used during the year.

† Privilege not taken advantage of during the year.

‡ Provision for small-pox only.

¶ Port Hospital also provided.

¶ Accommodation for small-pox

already provided, but not required during 1904. § Combined with Fylde, Preston, and Garstang for small-pox purposes. a During 1904 reserved entirely for small-pox; District also in proposed combination with Audenshaw, &c., for small-pox purposes. b Joint for all purposes. c By arrangement small-pox cases sent to Finnington Hospital, Blackburn. Ordinary infectious cases sent (d) to Oldham, (e) Burnley Joint, (f) Withington and Stockport, (g) Liverpool, (h) Salford. i Cases at present sent to Hyde. j Small-pox cases sent to Ashton-under-Lyne. k Districts already included under other heads. l Joint with Withington for small-pox.





An Order, dated May 7th, 1903, was, after Inquiry, made by the County Council under Section 3 of "The Isolation Hospitals Act, 1893," constituting a small-pox hospital district for the urban districts of Abram, Ashton-in-Makerfield, Aspull, Billinge, Blackrod, Hindley, Horwich, Ince-in-Makerfield, Orrell, Pemberton, Standish-with-Langtree, Upholland, Westhoughton, and the rural district of Wigan. On the 9th of November, 1904, by the extension of Wigan (C.B.) Pemberton was withdrawn from the above combination. The hospital district at the end of the year embraced 13 districts (12 urban and 1 rural), with an area of 52,142 acres, and a population of 138,272 as estimated at the census, 1901. During the year the Walton-le-Dale isolation hospital—with 12 beds—was erected at a cost of £5,000, and opened on the 25th of November; a hospital at Abram, erected at a cost of £5,000, was opened in September; and a scheme has been adopted for providing a small-pox hospital for Ashton-under-Lyne (B.), Audenshaw, Hurst, and Limehurst (R.)

Particulars of the joint hospital districts formed by the County Council under the Isolation Hospitals Act are contained in the following statement :—

District.	Date of Order.	Progress made towards Hospital Provision.
Chadderton Crompton Royton	Aug. 2, 1894	Small-pox accommodation for 12 patients. £5,150 borrowed from County Council.
Preston (R.) Fulwood Longridge	Nov. 7, 1895	Hospital almost completed, comprising scarlet fever pavilion (22 beds), observation pavilion (4 beds), administrative block, &c. Local Government Board sanction obtained to the borrowing of £15,900 for buildings. Money borrowed from County Council (to 31st March, 1905), £12,600.

District.	Date of Order.	Progress made towards Hospital Provision.
Fleetwood Kirkham Lytham St. Annas-on-the Sea Poulton-le-Fylde Thornton Bispham-with-Norbreck Fylde (R.)	Nov. 7, 1895	Hospital erected at Moss Side (Fylde R.); 30 beds. Opened for the reception of patients, 14th April, 1902. Money expended on buildings, &c., £17,166 11s. Money borrowed from County Council, £17,180.
Fylde } Urban & Preston } Rural Garstang } District Unions }	Nov. 7, 1895	Hospital almost completed at Ellswick for the isolation of 32 small-pox patients. Emergency pavilion already provided for the reception of 12 patients at a cost of £900. £18,850 borrowed from County Council.
Horwich Westhoughton Blackrod	Nov. 2, 1899	Hospital almost completed which will accommodate 22 scarlet fever, 12 typhoid, and 4 diphtheria patients. £17,100 borrowed from County Council.
Littleborough Milnrow Wardle	Feb. 1, 1900	Hospital, with scarlet fever pavilion (12 beds), observation pavilion (4 beds), administrative block, &c., in course of erection. Sanction obtained to borrow £9,130.
Abram Ashton-in-Makerfield Aspull Billinge Blackrod Hindley Horwich Ince-in-Makerfield Orrell Pemberton* Standish-with-Langtree Upholland Westhoughton Wigan (R.)	May 7, 1903	A Joint Committee has now been formed, and are considering the question of site, &c.

\* Withdrawn on extension of Wigan County Borough, 9th November, 1904.

In the 53 districts provided with hospital accommodation 7,571 cases of infectious disease were notified (excluding

measles and chicken-pox), and 2,798 or 36·9 per cent., received hospital isolation, as compared with 41·0 per cent. in the preceding year, 32·5 in 1902, 27·8 in 1901, and 30·0 in 1900. The total number of scarlet fever cases notified in these districts amounted to 5,183 and 2,160, or 41·6 per cent. were removed, against 45·3 per cent. removed from districts provided with hospitals in the previous year, 41·8 in 1902, 40·1 in 1901, 39·8 in 1900, 35·2 in 1899, 36·5 in 1898, and 37·6 in 1897. Of the scarlet fever patients removed from the before mentioned 53 districts 57 died in hospital, equal to a case mortality of 2·6 per cent., as compared with exactly the same percentage in 1903, 3·2 in 1902, 2·9 in 1901, 2·6 in 1900, and 3·6 in 1899. The remainder of the scarlet fever attacks in these districts (3,023) were treated at home, and 119 or 3·9 per cent. had a fatal termination. In 57 other districts where the *whole* of the scarlet fever cases notified were treated at home the case mortality was equal to 3·3 per cent.

In the 37 districts claiming the privilege of sending cases to hospitals in other districts 3,302 cases of infectious disease were notified (excluding measles and chicken-pox), and 707, or 21·4 per cent. of removals took place, against 26·8 per cent. in 1903, 21·5 in 1902, 23·7 in 1901, 18·1 in 1900, 16·9 in 1899, 17·6 in 1898, and 10·6 in 1897. In 7 of these districts the privilege claimed was not taken advantage of, or not required, and in 12 others the removals varied from 1 to 9.

The proportion of scarlet fever cases treated in hospital was greatest in Bispham-with-Norbreek and Kirkham, 100 per cent., Blackpool (B.) 92 per cent., Chorley (B.) 90 per cent., Ormskirk 88 per cent., Farnworth and St. Annes-on-the-Sea each 87 per cent., Widnes (B.) 79 per cent., Southport (B.) 78 per cent., Morecambe (B.) 75 per cent., Leigh (R.) 72 per cent., and Stretford 71 per cent.

**Disinfection.**—From the information given in the reports of Medical Officers of Health it appears that 71 of



the County districts are provided with disinfecting appliances. 37 possess steam apparatus, 13 use the hospital disinfectors (steam), 12 have working arrangements with County or Non-County Boroughs, and 9 have dry heat appliances. Too many districts (64) are unprovided for in this respect. New steam disinfectors have been provided in 6 districts during the year, viz., Abram, Birkdale, Hindley, Levenshulme, Lytham, and Middleton (B.), and the disinfecting station at Morecambe (B.) has been rearranged. A Local Government Board Inquiry was held at Leigh (B.) in the early part of the year as to borrowing money for the provision of a much-needed disinfecting chamber, but its erection is for the moment in abeyance. The Medical Officer of Health (Heywood B.) recommends the provision of a steam disinfecter at the refuse destructor works, or at some other more central position, to replace the present undesirable method of taking all infected clothing to the disinfecter at the small-pox hospital. Dr. Parker (Lancaster R.) refers to the urgent need of a steam disinfecter, and other Medical Officers of Health make similar references.

**Sanitary Administration.**—The appended summarised district reports contain references to local sanitary matters and the action taken thereon. With few exceptions, greater attention has been directed to sanitary improvements than in previous years, although there is still room for more progress. The total nuisances abated in the County, which number 40,886, approximating very closely to the 40,691 nuisances attended to in the previous year; these required the service of 24,593 notices, as compared with 24,629, and in 64 instances legal proceedings, as against 62 in 1903.

**Privy-Middens** cannot be too strongly condemned; in many reports, Medical Officers of Health speak of them as having been the cause of typhoid fever, diphtheria, and diarrhœa, and in referring to these diseases I have already

had occasion to mention their connection with filth. It is in privy midden districts that sensitive children suffer most from diarrhoea, and Local Authorities ought to clear away these abominations before using hackneyed phrases in the wholesale condemnation of mothers and their conduct in bringing up children

In many of the well-governed districts privies as well as pail closets are giving way to the water-carriage system, and when a good supply of water is laid on to a district slop-water closets also lose favour. Scavenging becomes less difficult and free from danger when the water-carriage system is adopted, and the greatest cleanliness can be secured when the streets are well paved and drained.

During the year 3,349 privy middens and 108 pail closets were converted to water closets, and 31 conversions to pail closets took place. Great energy was displayed in respect of closet conversions in Ashton-under-Lyne (B.), where 1,126 privy middens were converted, 958 to waste-water closets, and 168 to ordinary water closets. In Atherton 173 conversions to the water-carriage system took place, Dalton-in-Furness 79, Heywood (B.) 175, Horwich 102, Leigh (B.) 106, Middleton (B.) 193, Radcliffe 105, Stretford 249, Swinton and Pendlebury 267, Turton 112, and in Haslingden (B.) 75 pail closets to the waste-water system. Several of the Medical Officers of Health refer to the privies as "a serious menace to the public health."

**Housing of the Working Classes.**—As so much interest has recently been aroused in regard to the housing of the working classes, it is far from satisfactory to note that in only 36 of the County districts has action been taken in this direction, and resulted in 137 houses unfit for human habitation being dealt with. Houses built back-to-back continue, although it is well known that they harbour disease,

and the proportion of persons attacked with tuberculous phthisis is greater in such houses than elsewhere. As a sample of many, one district Clitheroe (B.) may be mentioned where 282 back-to-back houses still exist, but only two—converted to a single house—received attention during the year. Satisfactory work, however, seems to be in progress in Newton-in-Makerfield. In Stretford a scheme for the erection of dwellings for the poorer portion of the working class has now received the sanction of the Local Government Board, while in Prescot during the last three years 38 houses have been erected at a cost of £5,050, to accommodate the population displaced from insanitary property.

**Canal Boats Acts** seem to have received due attention. During the year 1,261 boats have been inspected, and 28 infringements of the Acts requiring notices came under observation. In 1903 altogether 1,288 canal boats were inspected, with the discovery of 26 infringements. No special references are made in respect of this work. The inspections were most numerous in Church 65, Eccles (B.) 46, Failsworth 40, Heywood (B.) 42, Lancaster (B.) 105, Leigh (B.) 130, Littleborough 47, Little Lever 45, Widnes (B.) 57, Worsley 81, Garstang (R.) 53, Leigh (R.) 203, West Lancashire (R.) and Wigan (R.) each 42.

**Slaughter-houses** receive periodical inspection, and are said to be generally in a satisfactory condition. Those who have experience of private slaughter-houses know that in them the proper supervision of animals slaughtered is difficult, if not impossible, and public slaughter-houses or abattoirs are recommended. These are already in operation at Accrington (B.), Blackpool (B.), Chorley (B.), Clitheroe (B.), Colne (B.), Great Harwood, Lancaster (B.), Moss Side, Southport (B.), and St. Annes-on-the-Sea (recently opened). The abattoirs at Clitheroe (B.) and Lytham are far from satisfactory, and

the Authorities have for some time been contemplating their re-erection. The Authorities of Ashton-under-Lyne (B.) and Heywood (B.) have, I understand, the provision of public slaughter-houses under consideration. In February, at Levenshulme, a heifer suffering from anthrax was slaughtered on a farm, and the disease escaped recognition. Unfortunately the farmer who killed it was attacked with anthrax, and died. The butcher who dressed the animal and sold it also suffered from the disease, but recovered. A prosecution was instituted against the butcher, and a fine of £10 and costs inflicted. A second occurrence similar to the above took place in October and November at Thornton. In this case a cow and a bull suffering from disease, subsequently found to be anthrax, were slaughtered on a farm. Both animals were sold and eaten as food, and two men who had taken part in the slaughtering became affected with anthrax, and one died. In neither of the outbreaks was the legal notification of the disease sent to the police. By way of precaution against similar occurrences it seems desirable that the Order of the Board of Agriculture should be stringently enforced by competent officials, and the Legislature should provide that no person shall slaughter an animal suffering from any form of disease on farm or other premises without previously giving notice of such intent to the Local Authority.

**Dairies, Cowsheds, and Milkshops.**—The information supplied by the Local Authorities indicate that there are exactly the same number of districts, 106, with regulations in force as in the previous year, and 29 districts remain without regulations or proper supervision. Again I have to draw attention to the fact that the following rural districts from which milk is largely obtained are still without dairy, &c., regulations, viz.:—Chorley, Garstang, Luncsdale, Whiston, and Wigan. With respect to Garstang (R.) it is reported that few, if any, of the cowsheds comply with sanitary

requirements, and in the case of Lancaster (R.) the cowsheds may be described as "fair," but several are improperly constructed, and not maintained in an efficient sanitary condition. More attention should also be paid to the condition of the udders and teats of the cattle before milking takes place.

The following description of the cowsheds at Rawtenstall (B.) may be taken as representing the character of many to be found in the County districts :—Few comply with the regulation as to air space; 300 or 400 cub. ft. per cow not always reached, the roof above the cattle being only some 5ft. 6in. to 6ft. high, with the light and ventilation defective. Milking cows are not always kept as clean as they might be, the udders and hind quarters often being "plastered with dung."

**Common Lodging-houses.**—There are few special references to common lodging-houses although they appear to be regularly inspected, and, on the whole, comply with the bye-laws of the Local Authorities. In many districts these premises have received more than ordinary attention on account of the prevalence of small-pox. Dr. Haworth (Darwen B.) speaks highly of the municipal lodging-house, as enabling health officials to keep a watchful eye on the majority of vagrants passing through the town.

**Factories and Workshops**—As you are aware "The Factory and Workshop Act, 1901," requires the Medical Officer of Health of every District Council to include in his annual report specific information as to the administration of this Act in workshops and workplaces, and for convenience in reporting, a Table has been issued by the Secretary of State relating to factories, workshops, workplaces, and home work. The Table is not intended to supersede the fuller statement, which is desirable in the text of the Report, but to provide



for uniformity in the presentation of such particulars as lend themselves to statistical treatment. From these Tables, which have been more or less carefully filled in, it appears that altogether 14,996 inspections have been made. Of 1 414 defects discovered 1,192 have received attention after the service of 817 notices, and in 31 instances the defects were referred to the Factory Inspectors. The attention paid to factories and workshops by the sanitary officials must have acted beneficially in securing more cleanness, better ventilation, and improved sanitary conveniences. Bakehouses have been inspected in accordance with statutory requirements, and action has been taken to discontinue the use of 69 underground bakehouses. After the 1st January, 1904, it is provided by the Act that an underground bakehouse must not be used unless certified by the District Council to be suitable for the purpose.

**Smoke Nuisance.**—The Table, as appended, shows that 63 Authorities—the same number as last year—report on the action taken for the suppression of black smoke. The observations numbered 1716, as against 1784 in the previous year, and legal proceedings were instituted in 29 instances, as compared with 33. Ashton-under-Lyne (B.) again holds the highest position in regard to the number of observations, namely, 272, but only 13 notices to abate were served. In Stretford 192 smoke observations were taken, 13 followed by legal proceedings; in Middleton (B.) there were 41 observations taken, resulting in 10 successful prosecutions, while 142 observations, taken at Turton, 89 at Colne (B.), 84 at Blackpool (B.), and 71 at Gorton apparently required no further action. The efforts made in the County districts to remove the atmospheric pollution due to black smoke are inadequate, and, in my opinion, little will be done by way of prevention until power is given to the County Council to appoint their own Inspectors to look after the nuisance.

DISTRICTS	No. of Smoke Observa- tions.	Time limit per hour— Minutes.	No. of Legal Pro- ceedings.	REMARKS on action taken.
Accrington (Boro) .....	6	8	..	13 notices to abate served.
Ashton-under-Lyne (Boro).....	272	8	..	
Atherton .....	1	..	..	
Audenshaw .....	10	..	..	Order to abate obtained
Bacup (Boro) .....	7	6	..	
Barrowford .....	10	..	..	
Billinge .....	1	10	..	
Birkdale .....	7	..	..	
Blackpool (Boro).....	84	5	..	
Chorley (Boro).....	34	10	..	
Church .....	55	8	..	
Clayton-le-Moors .....	Few	..	..	
Clitheroe (Boro).....	Few	..	..	
Coley (Boro).....	89	..	..	
Darwen (Boro).....	4	10	..	
Droylsden .....	Several	..	..	
Eccles (Boro) .....	29	4	..	
Failsworth.....	17	8	1	
Farnworth.....	31	..	..	
Fleetwood.....	Frequent	6	..	
Gorton .....	71	10	..	
Great Harwood.....	8	10	..	
Heaton Norris.....	Few	..	..	
Heysham .....	1	..	..	
Heywood (Boro).....	34	10	2	
Horwich.....	Frequent	10	..	
Huyton-with-Roby.....	20	..	..	
Irlam .....	Frequent	16	..	
Kearsley .....	12	..	..	
Lancaster (Boro).....	16	3	..	
Leigh (Boro).....	155	12	3	
Levenshulme.....	Few	10	..	One fined £5 and costs, one £2 and costs, and one dismissed.
Litherland .....	20	6	..	
Littleborough .....	34	8	..	
Little Hulton .....	6	10	..	Fines inflicted in each case.
Middleton (Boro) .....	41	10	10	
Milnrow .....	37	8	..	Fines and costs amounting to £17 imposed.
Much Woolton .....	60	3	..	
Norden .....	4	..	..	
Oswaldtwistle .....	12	8	..	
Prestwich .....	25	5	..	
Radcliffe .....	30	..	..	
Ramsbottom .....	10	12	..	
Royton .....	4	..	..	
St. Anne-on-the-Sea ....	2	10	..	
Southport (Boro) .....	7	4	..	
Stretford .....	192	4	13	
Swinton and Pendlebury..	20	5	..	
Thornton .....	Constant	..	..	
Tottington .....	5	12	..	
Turton .....	112	12	..	
Tyldesley-with-Shakerley..	Several	..	..	



DISTRICTS. (Continued.)	No. of Smoke Observa- tions.	Time limit per hour— Minutes.	No. of Legal Pro- ceedings.	REMARKS on action taken
Wardle .....	4	8	..	
Waterloo-with-Seaforth ..	16	..	..	
Westhoughton.....	Casual	..	..	
Whitefield.....	3	10	..	
Whitworth .....	1	..	..	
Withington .....	36	..	..	
Withnell .....	4	6	..	
Worsley .....	8	5	..	
Barton-upon-Irwell (R.) ..	3	6	..	
Bury (R.) .....	14	..	..	
Fylde (R.).....	2	..	..	
Total ... ..	1716	..	29	

**Scavenging and Refuse Removal.**—Medical Officers of Health state that scavenging is “satisfactory” in 118 districts, “fair” in 10, and “not satisfactory” in 7. In the latter category are Leigh (B.), Rainford, Blackburn (R.), Chorley (R.), except Coppull; Lancaster (R.), except Galgate, Warton, and Thurnham; Sefton (R.), except West Derby; and West Lancashire (R.), except Ainsdale, Aughton, and Formby. The Authorities undertake this work in 97 districts, it is contracted for in 21 districts, in 9 districts it is performed partly by the Authority and partly by contract, and in 8 districts the work is left to the owners or occupiers. The bad condition of the streets in certain districts renders efficient scavenging very difficult, if not impossible, as, for instance, in Adlington, where many streets are said to be in a “deplorable condition,” and numerous back yards equally unsatisfactory. The Medical Officer is also of opinion that the practice of emptying privy middens in the daytime ought to be discontinued. References are made to the unsatisfactory state of certain roads in Barrowford, Fleetwood, Leyland, and Worsley. In Westhoughton it is stated that the emptying of ashpits on to the back streets, which for the most part are soft and wet, especially in winter, is a constant source of danger to the health of the township. Many other districts

might also make a similar complaint. Refuse destructors have recently been erected at Chorley (B.) and Gorton; a loan has been sanctioned for one at Leigh (B.), and these appliances are recommended for Ormskirk, Ashton-in-Makerfield, and Clayton-le-Moors.

### **House Drainage, Sewerage, and Sewage Disposal.—**

The summaries contain short references to matters which come under the head of sewerage. Progress has been made during the year in respect of sewerage and sewage disposal, and house drains have been more and more connected up. The 63 County districts which come under the supervision of the Mersey and Irwell Joint Watershed Committee have all sewage works in operation, while there are 66 sewage works in the 43 County districts within the watershed under the supervision of the Ribble Joint Committee: in three districts new works have been completed during the year, and in two districts sewage works are in course of construction. Extensions have recently been made at the Adlington sewage works. The catch pits were enlarged, a new tank of 40,000 gallons capacity constructed, two new beds made and filled with clinkers, and one storm water bed provided. Ashton-under-Lyne (B.), 16 new bacteria beds have commenced work; Clayton-le-Moors, the laying out and under-draining of ten acres additional land has been completed and brought into operation, and three storm-water filters have been constructed: Darwen (B.), the sewage works are being converted from the international to the bacterial system; Eccles (B.), owing to pressure by both the Local Government Board and the Mersey and Irwell Joint Committee, together with the knowledge that the Health Committee had in view the converting of the whole of the privy middens in the Borough into water-closets, at the rate of 500 conversions per annum, the Sewage Disposal Committee have carefully considered the question of providing

means for the treatment and disposal of the sewage and storm water other than by the original scheme of sedimentation, tanks, and land filtration. A scheme was prepared at an estimated cost of £8,600, and the Local Government Board have signified their approval thereof. Alterations to the sewage works of Failsworth are contemplated at a cost of £15,134, and at Colne (B.), Heywood (B.), Ince-in-Makerfield, Middleton (B.), Nelson (B.), and Royton considerable extensions have taken place. At Gorton the proposed additional work will cost £3,801; the Horwich Council propose spending £12,000 on sewage works improvements and extensions; Rishton alterations, to cost £8,500, have received the sanction of the Local Government Board, and Preston R.D.C. are carrying out a sewage scheme for Penwortham, estimated to cost about £11,000. The sewerage schemes for Grange-over-Sands, Norden, and Ramsbottom, have been completed, and progress is being made in respect of sewerage at Bispham-with-Norbreck, St. Annes-on-the-Sea, Thornton, Trawden, and certain districts within Burnley (R.). As a result of years of labour a scheme for effectually sewerage Fleetwood, and therefore removing a nuisance from the harbour, has been put in hand, at an estimated cost of £60,000. It is pleasing to note that at last a Sub-Committee has been appointed to devise a suitable main drainage scheme for Haydock, with adequate arrangements for purifying the sewage. I may point out that for a long time this matter has demanded "anxious consideration." The question of sewerage Preesall-with-Hackinsall still continues in abeyance, notwithstanding the strong recommendation of the Local Government Board in the early part of the year. The Medical Officer of Health is of opinion that the Council "do not seem to recognise the dormant danger to the inhabitants and visitors which is present, and may at any time become an active source of epidemic disease, arising from the want of sewerage and drainage."

Efforts have been made to ventilate sewers by means of shafts at Lytham, Southport (B.). Stretford, Wardle, and at Ratcliffe, while from several districts complaints are constantly being made as to offensive emanations from untrapped street gullies and sewer manholes. Sewers are periodically flushed in the following districts :—Billinge, Birkdale, Carnforth, Chorley (B.), Clitheroe (B.), Lytham, Ormskirk, Poulton-le-Fyde, Prestwich, St. Annes-on-the-Sea, Widnes (B.), &c.

Drain-testing has received attention at Eccles (B.) : the smoke test was applied to drains 486 times, and 155 drains were opened up for inspection. Great Crosby, drains of 341 premises were tested, resulting in the discovery of "many defects." Haydock, the drains of 44 houses were tested with smoke, 8 of which proved defective. Heaton Norris, "many house drains were tested with the smoke machine." Southport (B.), an increasing number of house drains (284) were overhauled and tested ; for this work a small charge is made. Stretford, examinations of house drains resulted in 249 defects being found out of 552 drains tested (old property), and 399 defects out of 899 drains tested (new property). A large number of defects were also disclosed as a result of the sanitary fittings being tested. Swinton and Pendlebury, the work of testing drains was extensively carried out. Waterloo-with-Scaforth, the smoke test was applied to the drains of 576 houses, and many defects were discovered which could not have been found by a superficial examination.

**Water Supply.**—Special reference to this subject will be found in the various summarised reports appended, and it is satisfactory to observe that there has been a distinct improvement in the character of the water supply to the County districts during the year under review. Medical Officers of Health to Radcliffe, Rawtenstall (B.), Little Lever, Prestwich and Tottington, state that the water supplied by

the Bury and District Joint Water Board, although plentiful, is at times muddy owing to insufficient filtration. The Fylde water is usually of excellent quality, but in the summer months it has, according to Dr. Booth (St. Annes-on-the-Sea), a brownish discolouration owing to the peaty nature of the gathering ground. Dr. Court, (Fylde R.), regrets that some arrangement cannot be made for the supply of Fylde water to the districts of Treales and Wharles. Here the inhabitants have to use for drinking purposes water which is quite unfit for use, derived from, in one case, a surface water drain, and in others from wells where the quality is bad and the quantity insufficient, and situated a long distance from the houses. When it is mentioned that a school with over 70 pupils has absolutely no water laid on, having to depend for drinking water on an indifferent supply obtained from a neighbouring farm, it will give some idea of the state of affairs in this district.

It is satisfactory to note that there is every likelihood of Presall-with-Hackinsall being supplied with Fylde water; the present supply derived from wells is far from satisfactory. At Nelson (B.), the new reservoir in the Ogden Valley was brought into use during the year, and at Horwich a new reservoir is in course of construction. Dr. Young (Royton), reports that the water obtained from the Oldham Corporation has a tendency to act on the lead service pipes, and in this connection it may be mentioned that during the year a death is said to have been associated with plumbism of long standing.

In the Rural districts the question of water supply has received much consideration, for instance:—

Burnley (R.).—In January a Local Government Board Inquiry was held into an application for leave to borrow £5,000 for purposes of water supply to the several villages in



the township of Cliviger, and the work has now been satisfactorily completed, but a large number of the inhabitants have not yet availed themselves of the supply. The unsatisfactory state of the water supply to the village of Goldshaw Booth still continues.

Chorley (R.).—Plans and estimates have been submitted to the Local Government Board for obtaining from the Thirlmere aqueduct a water supply for the townships in the western portion of the district.

Clitheroe (R.).—Special reports have been prepared on the "Chipping water supply," from which it appears that some improvement is required, but apparently the townships principally concerned are not in favour of taking any efficient action in the matter, and for the present the matter is in abeyance.

Lancaster (R.).—The water supply of Cockerham and Thurnham is still in the same unsatisfactory condition, it having been found impossible to come to terms with the Fylde Water Board for the supply of Cockerham. Negotiations have, for the present, been abandoned. Badly as a pure potable water is required in Thurnham, no attempt has been made to provide one, the inhabitants being very indifferent about it. In Warton the supply to the higher part of the village has been improved, and the hamlet may be said to be well provided with water of good quality. The village of Bolton is supplied with Lancaster Corporation water. No public supply has yet been provided for Silverdale, although it is a crying necessity. The supply to Priest Hutton remains the same—liable to contamination.

Preston (R.).—Further extensions of water supplies have taken place. A scheme for providing Farington with water, at an estimated cost of £1,800, is now waiting the sanction of the Local Government Board. Plans for a scheme to supply Samlesbury are also before the Board.



**The Midwives Act, 1902.**—Section 2 of this Act provides for the certification as midwives of women holding certificates in midwifery from certain specified bodies, or such other certificate as may be approved by the Central Midwives Board, and women engaged in *bona fide* practice as midwives, providing evidence of good character is adduced. It is also provided that claims for enrolment as midwives must be made within two years from the date of the Act coming into operation (April 1st, 1903). During the year every effort has been made by advertisement and otherwise to bring the provisions of the Act to the notice of those entitled to be certified, details of which and the various matters in connection with putting the Act into force are given in the form of a paper appended to this report, page 293, *et seq.* The importance of the new work may be estimated by the fact that within the period allowed by the Act, 1,072 midwives applied from 131 Lancashire County districts to be certified; in 3 instances the Central Midwives Board refused to grant certificates on the ground of character, and 36 women either withdrew or did not complete their applications, leaving a total of 1,033 midwives under supervision. Of these 295 practice in 19 non-County Boroughs, 586 in 93 Urban Districts, and 152 in 19 Rural Districts; the proportion of midwives to population being 1 to 2,000 in the Boroughs, 1 to 1,548 in Urban Districts, and 1 to 1,587 in Rural Districts. In order to instruct and supervise the midwives practising in the County, the Midwives Committee as the Local Supervising Authority, appointed (October, 1904) a Lady Inspector, and there is every reason to believe that valuable work will result from the action taken.

**Sale of Food and Drugs Acts.**—The following is an extract from the annual report made by Dr. Campbell Brown, the Public Analyst for the Administrative County, on the proceedings taken under the Sale of Food and Drugs Acts:—

“ During the year, 3,388 samples have been analysed, including 3,121 submitted by Superintendents of Police, 70 by the Special Inspector, and 197 by Inspectors for Local Authorities and Private Purchasers. Of these 246 were found to be offences.

“ They are classified as follows :—

1090 samples of Milk and Cream, . of which 79 were offences			
529	..	Butter.. .. .	39 ..
7	..	Bread and Flour. ..	0 ..
143	..	Tea, Coffee, and	
		Cocoa .. .. .	2 ..
357	..	Small Groceries ..	27 ..
38	..	Beer .. .. .	0 ..
773	..	Wines and Spirits. .	53 ..
48	..	Confectionery and	
		Jam .. .. .	7 ..
34	..	Drugs .. .. .	1 was an offence
369		Miscellaneous Samples. . .	38 were offences
<hr/> 3388 Samples analysed			<hr/> 246 were offences <hr/>

“ The proportion of offences to total samples is 7.23 per cent. A tabular statement of the prosecutions is appended.

“ Out of the 3,191 samples purchased by the County officials, 240 were found to be offences, and the total number of prosecutions was 191 with 142 convictions.

“ The penalties varied from 7d. to £50. The average penalty was £2 16s. 0½d.

“ The number of prosecutions and of convictions and the amount of penalty are all higher than in recent years. The number of convictions has only been exceeded since the 1875 Act came into force in 1884-5, in 1896, 1897, and 1899.

“ A large number of analyses and investigations which do not appear in any Report, were made for the purpose of

getting information to enable the Analyst to deal with the official samples in an effective way, and to draw reliable conclusions from the analytical figures obtained. It will be readily understood that the analytical figures do not always by themselves tell without intelligent interpretation, whether a sample is genuine or not.

“Among the official samples there have been several cases of butter containing high proportions alike of water and of salt. It is to be hoped that both the Board of Agriculture and Parliament will resist all attempts to induce them to make the present limits of dilution of butter less stringent. Much margarine continues to be sold as butter, and there is reason to believe that margarine is now made from very inferior kinds of fat to those which were wont to be employed when margarine made its reputation. For this as well as other reasons, it is most desirable that margarine should not be coloured like butter. The glaring colours which have sometimes been suggested are inadmissible; but the yellow colour artificially given to facilitate fraud—for that is its chief *raison d’être*—ought, in fairness to the public, to be prohibited by legislation.

“The general practice of artificially colouring articles of food needlessly and senselessly requires repression. The variety of such articles is greater than is generally known, for example—cocoa, even in the form of nibs, is coloured by oxide of iron; anchovy paste similarly; coffee beans and the like; barley is whitened by French chalk; rice is coloured by ultramarine; milk by annatto and coal-tar dyes; and, in fact, the majority of solid foods.

“The high price of pepper continues to induce certain firms of grinders to mix olive stones and other worthless materials with ground pepper. The profitableness of this kind of sophistication is explained when it is remembered

that although single purchases are small in amount, the value of the total pepper imported into Great Britain is between £300,000 and £400,000 sterling per annum.

“The quality of brandy now sold in the County has been greatly improved by the repression by means of the Acts of the grosser forms of adulteration.

“The Merchandise Marks Act has been successfully put in force in certain cases of food adulteration, and a very old offender, for whose faults many shopkeepers, his customers, have been fined for many years back, has been convicted under that Act and sent to prison for three months.

“It will be instructive to append here, in tabular form, a statement of the progress of the work since 1875. It will be seen that while the number of samples taken and the number of convictions obtained has increased, the prevalence of adulteration has decreased to about one-fourth of what it was before the Acts were put in force.

“Table of proceedings under the Sale of Food and Drugs Acts since 1875:—

Year.	No. of Samples.	No. Adulterated.	Percentage.	Prosecutions.	Convictions.
1876-7	530	145	27·35	91	85
1877-8	675	152	22·52	92	87
1878-9	696	143	20·54	85	62
1879-80	879	142	16·15	105	95
1880-1	1003	157	15·65	105	95
1881-2	904	140	15·4	107	104
1882-3	948	130	13·71	95	93
1883-4	1022	177	17·32	145	139
1884-5	1098	226	20·58	174	169
1885-6	1135	132	11·63	120	103
1886-7	1142	185	16·2	112	102

Year.	No. of Samples.	No. Adulterated.	Percentage.	Prosecu- tions.	Con- victions.
1887-8	1073	168	15.6	100	94
1888-9	1073	136	12.67	110	106
1889	1263	161	12.74	135	128
1890	1368	160	11.7	105	93
1891	980	102	10.4	100	98
1892	1189	126	10.59	97	91
1893	1363	146	10.75	110	102
1894	1304	97	7.43	85	80
1895	1783	120	6.7	120	103
1896	1755	204	11.6	185	154
1897	1474	225	15.2	233	200
1898	1495	158	10.56	130	122
1899	1557	195	...	176	155
1900	1422	199	14.	97	86
1901	1838	119	6.47	92	78
1902	1744	171	9.8	121	96
1903	3123	232	7.42	151	111
1904	3388	246	7.23	191	142

“Although as has been pointed out in several previous Reports, the percentage of samples found offences in any one year does not represent accurately the prevalence of adulteration in that year as compared with any other single year, because the figures are affected by (*a*) the information and skill of Inspectors, (*b*) the success of the Analyst in detecting new forms of adulteration, and (*c*) many other special circumstances which temporarily affect the percentage figures. Yet the marked average reduction in the prevalence of adulteration, as broadly indicated by the percentage column in the table is really underestimated, for two reasons, (1) in the early years only the more pronounced cases of adulteration were considered offences which could be advantageously made the subject of prosecution, and many cases were passed over which are now convicted. (2) Although adulterations are now more subtle and difficult to detect, yet

the skill and experience of the analyst has increased in a much greater degree, and frauds which could not be detected at all in the 'seventies,' and percentages of adulteration which could not be certified with certainty and confidence in the 'eighties,' are now detected in a perfectly reliable way and are regularly prosecuted and convicted."



TABLE SHOWING THE PROCEEDINGS IN EACH POLICE DIVISION AND BY OTHERS, 1904.

Divisions.	Total Samples.	No. of Offences.	Percentage of Offences.	No. of Prosecutions.	No. of Convictions.	RESULT OF PROSECUTIONS.	Penalties.	Costs.	Remarks.
N.L.D.	61	...	...	3	3	One fined £5, one 20s., one 10s. and costs ... ..	£ s. d. 6 10 0	£ s. d. 9 6 4	Second offence.
S.L.D.	66	...	...	1	1	Fined £10 and 11s. 6d. costs ... ..	10 0 0	0 11 6	
G.D.	78	...	...	...	...		.....	.....	
Km. D.	100	...	...	4	4	One fined 20s., one 10s., two 5s. ... ..	2 0 0	3 2 0	
L.B.D.	132	...	...	15	15	One fined £3, one 20s., one 10s., two 1s. 7d., one 7d. and costs, nine costs only ... ..	4 13 9	10 11 6	
H.B.D.	190	...	...	4	3	Two fined £2 and costs, one costs only, one dismissed on a warranty ... ..	4 0 0	7 4 0	*Absconded. †Committed for three months in default.
Rs. D.	100	...	...	4	4	One fined £5, three 20s. and costs ... ..	8 0 0	12 9 1	
Ac. D.	114	...	...	19	12	One fined £5, eleven £2 and costs, seven dismissed ... ..	27 0 0	8 3 4	
L.D.	170	...	...	4	2	One fined 20s., one 2s. 6d. and costs ... ..	1 2 6	3 0 0	
Bn. D.	206	...	...	16	14	Three fined £5, three £2, four 10s., one 5s. and costs, three costs only, two dismissed on warranty ... ..	23 5 0	46 7 6	
By. D.	195	...	...	27	17	Three fined £50* each, two £20† each, one £2, two 20s. and costs, nine costs only, two dismissed, one on a warranty, eight withdrawn, and three defendants committed for trial for obtaining money by false pretences ... ..	194 0 0	17 14 3	
R.D.	229	...	...	14	12	One fined £10*, one 21s., three 20s., five 10s., two 5s., two dismissed on a warranty ... ..	17 1 0	11 1 6	
A.D.	151	...	...	1	1	Fined 2s. 6d. and 9s. costs ... ..	0 2 6	0 9 0	
M.D.	512	...	...	18	8	One fined £5, one £2, two 20s., one 5s., three costs only, five withdrawn, two dismissed and three pending ... ..	9 5 0	16 9 4	
S.D.	108	...	...	8	8	Four fined £5, one £4, two £2, one 10s. and costs ... ..	28 10 0	28 2 2½	
O.D.	85	...	...	4	3	One fined £10, one £5, one 1s. and costs, and one pending... ..	15 1 0	6 12 3½	*Second offence.
P.D.	90	...	...	5	4	One fined £3, two £2, one 20s., one withdrawn ... ..	8 0 0	6 18 0	
Ws. D.	73	...	...	4	4	Two fined £2, one 20s., one 10s. and costs ... ..	5 10 0	9 6 11	
W.D.	214	...	...	2	2	One fined 20s., one 11s. and costs ... ..	1 11 0	4 19 10	
Wgn. D.	217	...	...	13	12	One fined £10, one £5, one £2, four 20s., three 10s. and costs, two costs only, one withdrawn ... ..	22 10 0	11 9 2	
	3121	...	...	166	129		388 1 9	213 17 9	
Inspr. Parkinson..	70	...	...	25	13	One fined £5, three 20s., two 10s., one 5s. 6d., one 5s., one 2s. 6d., two 1s., two costs only, four dismissed, and eight pending ... ..	9 15 0	Not reported	
Total by County Officers ...	3191	240	...	191	142		397 16 9	213 17 9	
Inspectors for District Councils and Private Purchasers...	197	6	...	Not reported.					
Total ...	3388	246	7.23	...	...				



SUMMARY OF THE REPORTS  
RECEIVED FROM  
MEDICAL OFFICERS OF HEALTH  
OF  
URBAN AND RURAL DISTRICT COUNCILS  
FOR THE YEAR 1904.



## URBAN DISTRICTS.

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**Abram.**— (Area in acres, 1,984 ; Estimated Population, 6,660).

—*Medical Officer of Health*, NATHAN HANNAH L.R.C.P.E.;  
*Salary.* £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate.....	30·7	.. 41·1	.. 43·2
Death-rate .....	19·2	.. 22·8	.. 22·1
Zymotic death-rate .....	2·70	.. 4·72	.. 4·16
Phthisis „ .....	1·05	.. 0·91	.. 1·08
Respiratory „ .....	3·15	.. 5·18	.. 5·26
Rate of deaths under 1 year to 1,000 births.....	200	.. 207	.. 203

The most noticeable feature in connection with the statistics is the great decline in the birth-rate, the average for the year under review being 12·5 per 1,000 of the population below the mean of the preceding decennial period, and 10·4 less than the rate for 1903. It is, however, satisfactory to note that the death-rates bear favourable comparison to previous years, although the infantile mortality maintains a high figure, and is much in excess of the average of the County urban districts. Of the principal zymotic diseases, diarrhoea with 9 deaths proved the most fatal—7 of these being amongst infants under the age of one year. “Artificial feeding” is again referred to as conducing largely to the prevalence of this disease. Measles gave rise to only 2 deaths, against 10 in the previous year, and whooping cough also contributed 2 fatalities. Scarlet fever had a markedly reduced prevalence, 50 cases being notified with 1 death, as compared with 109 cases 6 deaths in 1903. As regards periodicity the attacks were pretty uniform month by month, the greatest freedom being in April, May, and June, and the

greatest prevalence in December. Disregard of the contagious character of the ailment, and injudicious visiting between relatives and friends were the principal causes of its spread and consequent persistency. Typhoid fever was accredited with 18 cases 3 deaths, diphtheria 8 cases 1 death, erysipelas 15 cases, puerperal fever 2 cases, and chicken-pox (notifiable for a short period) 2 cases.

*Hospital Accommodation.*—In September a new isolation hospital was opened, consisting of two blocks, each block containing two wards with two beds—a total of 8 beds. The total cost was nearly £5,000. In addition, a small corrugated iron structure (4 beds) is available for small-pox cases. This district is one of the constituent authorities under the Wigan and District Small-pox Hospital Order, but so far little progress has been made towards providing the required accommodation.

*Disinfection.*—During the year a modern steam disinfecting chamber was provided. Infected houses are fumigated with sulphur.

*Water Supply* is obtained from a reservoir in the locality, belonging to the Liverpool Corporation; the daily consumption of water averaged 11 gallons per head.

*Sewerage, Scavenging, &c.*—The effluents from the sewage works “continue to be of a satisfactory character.” Scavenging is carried out in one ward by the Authority, and in three wards by farmers under contract.

*Sanitary Inspection.*—Overcrowding of dwelling-houses still exists, and probably this condition of things assisted in the spread of typhoid fever. The slaughter-houses were kept “clean and in good order,” but in 2 instances bakehouses were not so clean as they might be. There are no factories in the district; 9 workshops came under supervision, 3



notices being required for want of cleanliness. Improvements have taken place in the dairies and cowsheds as regards limewashing, and the laying on of a better water supply. The Inspector (Mr. Eatock) reports on nuisances dealt with affecting 76 premises, 36 notices being required for their abatement.

**Accrington (Borough).**—(Area in acres, 3,427 ; Estimated Population, 44,300).—*Medical Officer of Health*, ARTHUR GREENHALGH, M.R.C.S., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·6	.. 21·9	.. 24·6
Death-rate .....	15·7	.. 14·7	.. 15·2
Zymotic death-rate .....	1·58	.. 1·84	.. 1·80
Phthisis „ .....	1·24	.. 0·93	.. 0·96
Respiratory „ .....	3·36	.. 2·31	.. 3·02
Rate of deaths under 1 year to 1,000 births .....	148	.. 130	.. 161

The birth-rate, although 2·0 per 1,000 of the population below the mean of the 10 years 1894-1903, shows an increase of 0·7 as compared with last year. The general death-rate, phthisis rate, respiratory rate, and the infantile mortality are not so favourable as in 1903. The epidemic of measles which commenced in North-West Ward during last Autumn continued during the early part of the year under review and resulted in 25 deaths, 20 of which were amongst children under the age of 2 years. There was also a considerable prevalence of whooping cough and diarrhœa, the deaths amounting to 14 and 16 respectively. Small-pox, for the third year in succession has been present, but fortunately only to the extent of 4 cases, all of which recovered. Scarlet fever had a diminished prevalence, 157 cases being notified with 6 deaths, as compared with 275 cases and 21 deaths in

the previous year. Hospital isolation of this disease is not practised at all in the Borough. Typhoid fever had a high mortality, 7 deaths being certified out of 30 notified cases. The remaining notifiable diseases were diphtheria and membranous croup 14 cases 2 deaths, erysipelas 25 cases, and puerperal fever 4 cases. Voluntary notification of phthisis is "practically a dead letter."

*Hospital Accommodation.*—No provision whatever is made for the isolation of ordinary infectious diseases. For small-pox a hospital of 24 beds is kept in readiness, and this was used for the isolation of 4 cases.

*Disinfection.*—The steam disinfecting apparatus provided last year continues to work satisfactorily. Articles disinfected numbered 1,300 ; and 211 rooms were fumigated.

*Water Supply* is obtained from the reservoirs of the Aecrington District Gas and Water Board, situated at Dean Clough, Mitchells, and Huncoat. For some time the pressure of water to the Baxenden district has been irregular, but during the year a new main was laid, and complaints have now ceased.

*Sewerage, Scavenging, &c.*—Sewage is treated at the joint outfall works at Coppy Clough, by open septic tanks, sprinkler filters, and small sedimentation tanks. Plans and estimates have been prepared for a new sewer from Coppy Clough to Holt Mill, and for further works for the treatment of storm water. The Authority carry out scavenging in a satisfactory manner, the refuse being burnt in a six-cell destructor.

*Sanitary Inspection.*—As a result of a special examination of underground bakehouses, 3 were considered unfit for their purpose, and notices were served on the owners to discontinue the use of such premises. The other bakehouses are

“in the main good.” The municipal abattoirs and the 5 private slaughter-houses are kept in good condition. During the last two years great improvements have been effected in the condition of the cowsheds, and further action in this respect is contemplated. A survey of all the workshops in the borough—252 in number—is in progress; the defects found so far relating chiefly to insufficient or insanitary closet accommodation. The Inspector (Mr. Diggle) reports on the sanitary work accomplished in his department: 540 nuisances were abated after the service of 260 notices, and in addition a large number of sanitary defects received attention without recourse to formal notice. Six smoke observations were taken. The condition of the schools in the borough “leaves much to be desired as regards their cleanliness.”

**Adlington.**—(Area in acres, 1,062; Estimated Population, 4,665).—*Medical Officer of Health*. F. J. A. MAYES, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	24·4 ..	31·3 ..	31·0
Death-rate .....	14·7 ..	11·0 ..	13·8
Zymotic death-rate.....	1·71 ..	0·43 ..	1·73
Phthisis           ,,       .....	0·64 ..	nil. ..	0·51
Respiratory       ,,       .....	2·78 ..	2·38 ..	2·73
Rate of deaths under 1 year to 1,000 births .....	219 ..	110 ..	121

As compared with last year the birth-rate shows a decrease of 6·9 per 1,000 of the population, whilst the death-rate is increased 3·7. The infantile mortality is almost double last year's average, and, with the exception of 1900, when it was 220, is the highest recorded. Dr. Mayes says the infantile death-rate is largely increased through the eagerness of mothers to return to work, and through ignorance as to feeding, &c.

Measles contributed 2 deaths, and diarrhoea 4 deaths ; school closure was resorted to on account of the prevalence of the first mentioned disease. One satisfactory feature of the report is the marked decrease in the number of infectious diseases, only 18 cases being notified, against 78 last year. Scarlet fever contributed 8 cases with 1 death, typhoid fever 3 cases (1 fatal), diphtheria 1 case, erysipelas 4 cases, and continued fever 2 cases.

*Hospital Accommodation.*—The joint hospital at Heath Charnock was used for the isolation of 4 patients—3 scarlet fever and 1 typhoid fever.

*Disinfection.*—No apparatus.

*Water Supply* is obtained from Blackrod.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. Extensions have recently been made at the sewage works. The catch pits were enlarged ; a new tank of 40,000 gallons capacity constructed ; two new beds constructed and filled with clinker ; and one storm water bed provided. Scavenging is performed by the Authority. Many streets are said to be in a “deplorable condition,” and numerous back streets and yards are not satisfactory. The practice of emptying privy middens in the daytime ought to be discontinued ; Dr. Mayes recommends his Council to introduce at every opportunity the water-carriage system.

*Sanitary Inspection.*—Bakehouses and slaughter-houses appear to be in good condition. Dairies and cowsheds are also well kept, but at several of the farms the water supply is not above suspicion. Factories and workshops came under observation. Twenty-four notices for nuisance abatement were served and complied with. This report was not received until August 7th, 1905.

**Allerton.**—(Area in acres, 1,589 ; Census Population, 1,101).  
 —*Medical Officer of Health*, C. STUART PETHICK, M.B. ;  
*Salary*, £20.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years, 1894-1903.
Birth-rate .....	27·2	..	21·7	..	20·4
Death-rate .....	9·0	..	9·9	..	9·6
Zymotic death-rate .....	0·90	..	nil.	..	0·90
Phthisis „ .....	nil.	..	nil.	..	0·31
Respiratory „ .....	0·90	..	0·90	..	1·70
Rate of deaths under 1 year to 1,000 births.....	33	..	125	..	78

An increase in the birth-rate, as compared with last year, equal to 5·5 per 1,000 of the population, is accompanied by a decrease of 0·9 in the death-rate. The former rate is the highest recorded for the district during the last decennial period. Only 1 death was ascribed to the principal zymotic diseases, viz., scarlet fever ; a patient removed to the Whiston Sanatorium. Six cases of the disease mentioned were notified.

*Hospital Accommodation.*—Under agreement one bed is reserved for the use of this district at the Whiston hospital, and as stated above a case of scarlet fever was removed.

*Disinfection.*—The agreement referred to also covers the use of the Rural Council's disinfecting appliances. Six houses were fumigated.

*Water Supply* obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the River Mersey, and scavenging is carried out under the direction of the sanitary officials.

*Sanitary Inspection.*—One hundred and ninety premises were inspected, and 6 notices issued for sanitary amendments.

The four cowsheds are kept in good order, and the same remark applies to the only bakehouse in the district. There are no slaughter-houses, lodging-houses, or workshops.

**Ashton-in-Makerfield.**—(Area in acres, 6,251; Estimated Population, 20,021).—*Medical Officer of Health*, NATHAN HANNAH, L.R.C.P.E.; *Salary*, £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	37·5 ..	38·7 ..	41·5
Death-rate .....	13·8 ..	16·4 ..	19·0
Zymotic death-rate.....	2·64 ..	3·26 ..	3·27
Phthisis „ .....	0·39 ..	0·30 ..	0·96
Respiratory „ .....	2·54 ..	2·60 ..	3·87
Rate of deaths under 1 year to 1,000 births .....	154 ..	171 ..	178

The mortality statistics presented by Dr. Hannah compare favourably with the previous year, and with the mean of the preceding decade, the general death-rate being 5·2 per 1,000 of the population below the 10 years' average. The birth-rate, although still well above the County average, is the lowest recorded for the district for many years. Measles—the cause of 5 deaths—was prevalent during the first quarter in the Garswood area, and one school was closed for a fortnight. Whooping cough also caused some anxiety during the first half of the year, during which period 8 out of the 9 deaths occurred. Diarrhoea was again the main factor in upholding the zymotic death-rate, 29 deaths being ascribed to this cause, equal to a rate of 1·4 per 1,000. Pamphlets giving advice as to the care and feeding of young children were—as in previous years—sent out during the summer months. Scarlet fever had a marked diminution as compared with 1903, the cases notified amounting to 128 with 7 deaths, as compared with 257 cases and 9 deaths. Typhoid fever contributed 13 cases 1 death, diphtheria 17 cases 2 deaths,



erysipelas 11 cases, puerperal and continued fevers 3 cases each, and chicken-pox 44 cases. Notification of the latter disease continued in force from the previous year until July, when it was discontinued.

*Hospital Accommodation.*—The present accommodation consists of 9 beds; the question of extension has engaged considerable time during the course of the year, and at present plans await the approval of the Local Government Board. The district is also included in a scheme for providing a joint small-pox hospital.

*Disinfection.*—The provision of disinfecting appliances is included in the hospital scheme. One hundred and fifty-three rooms were fumigated.

*Water Supply,* obtained partly from the Liverpool Corporation and partly from the Council's own reservoir, continues satisfactory.

*Sewerage, Scavenging, &c.*—Considerable lengths of main sewer have had to be taken up and re-laid owing to dislocation of the pipes through subsidences arising by working of the coal measures. "The effluents at the outfall have been good." The sewerage and disposal of sewage at Edge Green calls for special consideration. The Authority carry out scavenging in a satisfactory manner. A refuse destructor is recommended.

*Sanitary Inspection.*—Several insanitary dwelling-houses have been demolished during the year. Four bakehouses and 6 cowsheds were dealt with on account of want of cleanliness, and 10 factories or workshops had to be reported for the same reason. Slaughter-houses give rise to little or no complaints. Privy middens are quietly being reduced, but at Brynn Hall Cottages there are some rather bad ones still existing; 17 conversions took place during the year. The Inspector (Mr. Gamble) gives details of 520 nuisances remedied. No smoke observations were taken.

**Ashton-under-Lyne (Borough).**—(Area in acres, 1,346; Estimated Population, 44,541).—*Medical Officer of Health*, W. H. HUGHES, M.R.C.S. ; *Salary*, £130.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·0 ..	26·2 ..	27·4
Death-rate .....	17·3 ..	20·0 ..	20·2
Zymotic death-rate .....	1·77 ..	2·71 ..	2·17
Phthisis „ .....	0·94 ..	1·46 ..	1·84
Respiratory „ .....	2·85 ..	3·21 ..	4·16
Rate of deaths under 1 year to 1,000 births .....	172 ..	200 ..	191

As compared with last year the birth-rate shows a fractional increase, but the general death-rate is reduced 2·7 per 1,000 of the population. The zymotic, phthisis, respiratory and infant rates, also are more favourable than those of the preceding year. The Lady Health Visitors are doing a useful work in giving advice as to the care and feeding of infants. Measles and whooping cough each caused 10 deaths, against 49 and 29 deaths respectively in 1903. Diarrhoea contributed 27 deaths, or 2 less than last year. The epidemic of small-pox which commenced in November, 1902, has continued ever since, and the hospital has been kept busily occupied during the whole of the period under report. The cases notified amounted to 117 and 9 deaths occurred. Every precaution has been taken to check the spread of the infection, and all the cases were immediately removed to hospital. There was a great increase in the number of scarlet fever notifications, viz., 302 against 52 in 1903. Nine deaths were due to this disease. No doubt the spread of scarlet fever was assisted by the fact that all the cases had to be treated at their own homes. Typhoid fever gave rise to 29 cases 5 deaths, diphtheria 25 cases 9 deaths, erysipelas 33 cases, and puerperal fever 4 cases. Arrangements have been made for the voluntary notification of phthisis.

*Hospital Accommodation.*—The hospital was reserved entirely for small-pox, and 117 cases were treated. One case of typhoid fever was removed to Westhulme hospital (Oldham). A small-pox hospital is being erected at Hartshead jointly with neighbouring authorities.

*Disinfection.*—Mason's apparatus used. Rooms fumigated numbered 2,316.

*Water Supply* good, obtained from the Joint Water-works.

*Sewerage, Scavenging, &c.*—The sewage is treated by precipitation and filtration. Sixteen new bacteria beds have been brought into operation. Scavenging is satisfactorily carried out under the direction of the Sanitary Superintendent.

*Sanitary Inspection.*—There are 31 licensed slaughter-houses; these are regularly inspected, and "every care is taken to make them as little offensive as possible." The desirability of the Corporation providing a public abattoir is "a matter for future consideration." Bakehouses, on the whole, give satisfaction: 5 underground premises have recently been altered to comply with the requirements. Dairies and cowsheds are described as "fair." The whole of the workshops (186) have been visited; the defects noted were mainly want of cleanliness and insufficient means of ventilation. The Borough Analyst examined 50 samples of milk, and 16 samples of ice cream were submitted for bacteriological examination. Privy middens converted to waste-water closets numbered 958, and 168 were replaced by ordinary water closets. The Sanitary Superintendent (Mr. Morris) reports on a large amount of work accomplished in his department, including the following:—

Number of visits by Inspectors .....	13417
„ „ visits respecting defective drains .....	206
„ „ visits with reference to infectious diseases .....	1241
„ „ visits to common lodging-houses.....	156
„ „ visits to houses let in lodgings .....	360
„ „ visits to living vans .....	104
„ „ inspections of waste-water closets ....	11916
„ „ nuisances reported .....	1593
„ „ nuisances abated .....	1162
„ „ notices served .....	482
„ „ smoke observations .....	272

**Aspull.**—(Area in aeres, 1,906 ; Census Population, 8,388).—

*Medical Officer of Health, L. COOKE, L.R.C.P. ; Salary, £35.*

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	38·9	.. 37·6	.. 35·1
Death-rate .....	18·0	.. 21·2	.. 18·7
Zymotic death-rate.....	1·66	.. 5·12	.. 3·17
Phthisis „ .....	0·71	.. 0·83	.. 0·68
Respiratory „ .....	5·36	.. 3·81	.. 4·50
Rate of deaths under 1 year to 1,000 births .....	149	.. 183	.. 163

The birth-rate is 1·3 higher than last year's rate, and 3·8 per 1,000 of the population above the average of the 10 years 1894-1903. The general death-rate is the lowest recorded since 1895, and the zymotic mortality as compared with previous years is very low, the average for the three preceding years being over 5 per 1,000. It is also gratifying to note a decided improvement in the rate of deaths of infants. A smart epidemic of measles occurred at New Springs in June, but fortunately without fatal results. As the disease

could clearly be traced to St. John's school, closure was adopted with beneficial effect. Nine deaths were ascribed to diarrhoea, and 1 death to whooping cough. Of the 37 cases of scarlet fever reported, the greater number occurred in Stanley Road, Ratcliffe Road, Bolton Road, and Scot Lane districts. Enteric fever—14 cases 3 deaths—was not limited to any particular locality. Diphtheria and membranous croup contributed 6 cases 1 death, and erysipelas 14 cases.

*Hospital Accommodation* is available at Wigan, and 6 cases were removed, viz., 4 enteric fever, and 2 scarlet fever. This district is included in a joint scheme for the provision of small-pox hospital accommodation.

*Disinfection.*—Infected clothing and bedding are sent to Wigan for disinfection. Houses fumigated numbered 51.

*Water Supply* for the greater portion of the district is obtained from Bolton, but the higher parts have to rely on “variable sources.”

*Sewerage, Scavenging, &c.*—Sewage is turned into the sewers of the Wigan Corporation. During the year there has been a considerable improvement in the method of scavenging, and the work as now performed by contract may be said to be satisfactory.

*Sanitary Inspection.*—House accommodation is generally very good, and there are distinct evidences of improving cleanliness. Single houses are gradually disappearing, and back streets and yards are in much better condition than formerly. Cowsheds and dairies are described as fair, and bake-houses and slaughter-houses continue in good order. Factories and workshops—regularly inspected—do not contravene any of the provisions of the Factory Act. The Inspector (Mr. Gibson) served 99 notices for nuisance abatement.



**Atherton.**—(Area in acres, 2,265; Estimated Population, 17,500).—*Medical Officer of Health.* JAMES MARSH, M.B.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894 1903.
Birth-rate .....	31·0 ..	35·9 ..	36·3
Death-rate .....	15·7 ..	17·8 ..	18·4
Zymotic death-rate.....	3·25 ..	4·13 ..	3·63
Phthisis „ .....	0·97 ..	0·80 ..	1·10
Respiratory „ .....	2·28 ..	3·14 ..	4·31
Rate of deaths under 1 year to 1,000 births .....	172 ..	180 ..	176

The birth and death rates are the lowest recorded for many years, and are 5·3 and 2·7 per 1,000 of the population respectively below the mean of the preceding decade. The zymotic rate, although still high, is below the average of previous years, and the same remark applies to the infantile mortality. Measles (3 deaths) and whooping cough (6 deaths) were prevalent in the first quarter of the year, but not to any serious extent, nor has diarrhoea been so severe as usual, although 31 deaths were reported. Dr. Marsh states “a great need in the town is the presence of a trained woman who would devote the whole of her time to the teaching of mothers on the feeding, clothing, and general bringing up of their children.” Small-pox gave rise to 12 attacks, and all were isolated in hospital. On one occasion the disease was imported from Swinton by a boy who attended a wedding whilst suffering from small-pox. Almost the whole of the persons known to have been in contact were re-vaccinated. Scarlet fever was the cause of 111 cases, but the disease was so mild that only 1 case had a fatal termination. As in previous years, indiscreet visiting of infected houses assisted its spread. The remaining notifications were diphtheria and membranous croup 52 cases with 9 deaths, typhoid fever 29 cases with 6



deaths, erysipelas 30 cases, puerperal fever 2 cases, and cholera 1 case (fatal). Dr. Marsh again points out the necessity of medical supervision over children attending schools. By this action the health authorities would be enabled to recognise cases of mild infectious diseases, and, by prompt action, no doubt in many instances prevent an epidemic. Voluntary notification of plithisis has been adopted.

*Hospital Accommodation* is provided at the joint sanatorium at Astley; 49 cases were removed, viz., small-pox 12, scarlet fever 25, and diphtheria 12.

*Disinfection.* — Mason's apparatus available. Two hundred and two rooms and 10 schools were fumigated either with sulphur or formaldehyde.

*Water Supply* good and plentiful, obtained from Manchester and Bolton.

*Sewerage, Scavenging, &c.*—Sewage undergoes treatment on the Leigh and Atherton joint sewage farm. On two occasions—May and September—the Mersey and Irwell Joint Committee had occasion to draw attention to unsatisfactory effluents. Scavenging is performed satisfactorily by the Council's employees. A refuse destructor is in operation.

*Sanitary Inspection.*—Three insanitary dwelling-houses were condemned. Bakehouses and slaughter-houses are, on the whole, well kept. Some of the farms and dairies are in fairly satisfactory condition, but few meet modern requirements, and all can be improved. Factories and workshops in a few instances were found imperfectly ventilated and in want of limewashing. Privy closets converted to water closets or slop closets numbered 173. The Inspector secured the abatement of 177 nuisances. One smoke observation was taken.

**Audenshaw.**—(Area in aeres, 1,241 ; Estimated Population, 7,511).—*Medical Officer of Health*, F. W. ALLKIN, M.B. ; *Salary*, £20 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·6 ..	24·3 ..	26·2
Death-rate .....	14·3 ..	13·5 ..	15·3
Zymotic death-rate.....	1·73 ..	1·76 ..	1·61
Phthisis „ .....	0·93 ..	1·21 ..	0·87
Respiratory „ .....	1·99 ..	2·16 ..	2·95
Rate of deaths under 1 year to 1,000 births .....	150 ..	127 ..	142

The birth-rate was 2·3 per 1,000 of the population above last year's average, and the general death-rate showed a fractional increase. It is regrettable to find an increase in the infant rate due, no doubt, to “improper feeding and want of cleanliness, coupled with the nursing-out system.” Measles and whooping cough each contributed 1 death, and diarrhoea 8 deaths. Two cases of small-pox were notified—1 in April and the other in September. The source of infection in either case could not be traced. Scarlet fever was somewhat prevalent in August and September, and a school had to be closed on account of its prevalence amongst the scholars. Altogether 46 attacks took place 1 having a fatal termination. Typhoid fever was accredited with 3 cases 1 death, diphtheria 7 cases 1 death, and erysipelas 5 cases.

*Hospital Accommodation.*—Four cases were removed to the Hyde Corporation hospital, viz., small-pox 2 and scarlet fever 2. A small-pox hospital—jointly with Ashton-under-Lyne (B.) and other Authorities—is being erected.

*Disinfection.*—No apparatus. Forty-two houses underwent sulphur fumigation.

*Water Supply* good, obtained from the joint waterworks in Swineshaw Valley.

*Sewerage, Scavenging, &c.*—The new joint sewage works are completed, the treatment consisting of precipitation and intermittent downward filtration. Many houses which formerly polluted the Gore Brook have now been connected up to the main sewer. Scavenging, as carried out by contract, does not give entire satisfaction.

*Sanitary Inspection.*—The 10 bakehouses are fairly well kept, and dairies and cowsheds are gradually being improved. Slaughter-houses are not yet registered, and the means of disposal of offal, &c., are not satisfactory. Factories and workshops—68 in number—have come under observation, 4 notices being served to remedy defects. Steady progress is being made in converting old privies to a better system, but hundreds still remain. The Inspector (Mr. Drew) served 136 notices, and secured the abatement of 128 nuisances. Ten smoke observations were taken.

**Bacup (Borough).**—(Area in acres, 6,120 ; Estimated Population, 22,500).—*Medical Officer of Health*, JOHN BROWN, M.D., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·6 ..	24·5 ..	23·7
Death-rate .....	16·9 ..	19·5 ..	18·0
Zymotic death-rate.....	1·77 ..	2·44 ..	1·51
Phthisis       ,, .....	0·71 ..	1·15 ..	1·07
Respiratory   ,, .....	3·37 ..	4·08 ..	4·11
Rate of deaths under 1 year to 1,000 births.....	145 ..	139 ..	155

The statistics presented by Dr. Brown show reductions in the birth and death rates of 1·9 and 2·6 per 1,000 of the population respectively, as compared with last year. The zymotic rate also showed a decline, but the rate of deaths under 1 year to 1,000 births was rather higher than in 1903.

The increase in the latter rate was, in the opinion of Dr. Brown, partly due to the "cotton corner." Many families suffered great privation owing to reduction of income, the result being that the children could not be fed or clothed properly. The main cause, however, is due to improper feeding generally, combined in many instances with want of care, owing to the children being neglected whilst the mothers go to work in the mills. Whooping cough was the cause of 24 deaths, equal to a rate of 1.04 per 1,000 of the population—the highest mortality ever recorded in the Borough. The disease was more or less epidemic from March until the end of the year. Measles contributed 6 deaths and diarrhoea 4 deaths. The district was free from small-pox for over a year, but on November 6th a case was notified, and 2 days later 3 others occurred. Prompt removal to hospital took place, and the usual precautionary measures adopted. The source of the first case was uncertain, very probably being contracted in another district. In regard to the 3 others, 2 occurred in a house where an adult case of "chicken-pox" died, and the third was a person residing next door, who laid out the corpse. In July, 1903, chicken-pox was made notifiable and continued so throughout the year under review; 103 cases were reported, of which at least 3, in the opinion of Dr. Brown, were modified small-pox. Scarlet fever, mainly of a mild type, gave rise to 38 attacks (1 fatal) against 115 cases 7 deaths last year. One case was very interesting. Five years ago a case of scarlet fever occurred in a house, the tenant shortly after removing into a house next door with the same furniture. On leaving in a year's time, the same furniture was left for the next tenant, who stayed three years, during which time one of his children contracted the disease. At the end of his tenancy another tenant came who also used the same furniture. After being in the house for a few weeks one of his children was taken ill with scarlet fever, it being the only case in the Borough at the time. Just before this

boy began to be ill a quantity of useless things were removed to be destroyed. It seems probable that the latent disease germs had been disturbed. In each of the two previous cases the ordinary methods of disinfection were carried out; in the last case special and thorough disinfection of all floors, stripping of the walls, washing all the furniture, &c., and fumigation were adopted, and so far no further case has occurred. Typhoid fever contributed 6 cases 3 deaths, diphtheria and membranous croup 3 cases 2 deaths, erysipelas 6 cases, and puerperal fever 6 cases.

*Hospital Accommodation.*—The only provision is for small-pox at Sourhall hospital, where the 4 cases were isolated. Last year I reported that the question of providing accommodation for ordinary infectious diseases was “still in abeyance,” and the same remark still applies.

*Disinfection.*—The provision of a disinfecter for the ordinary needs of the Borough is also in abeyance. Steam apparatus at the hospital is available in case of small-pox. Rooms fumigated numbered 106.

*Water Supply.*—Less than one-half of the houses are supplied with Corporation water, the remainder depending upon private sources, some of which are liable to contamination.

*Sewerage, Scavenging, &c.*—Sewage is dealt with at the joint outfall works at Ewood Bridge. The Mersey and Irwell Joint Committee have had occasion to complain of unsatisfactory effluents, and also that the progress in constructing new bacteria beds has been extremely slow. The intercepting sewer for Weir district is completed, but there is still some unconnected sewage in the district of Britannia. Smoke tests were applied to 35 drains, 43 defects being discovered. Scavenging is performed under the supervision of the sanitary officials.



*Sanitary Inspection.*—Bakehouses and slaughter-houses are periodically examined. Some of the latter are in congested areas, and structurally not suited for their purpose. The supervision of dairies and cowsheds, and lodging-houses devolves on the police. Inspections were made of the 140 workshops on the register, and as a result 42 defects were remedied. Fifty privy middens or pail closets were during the year converted to the waste-water system. The Inspector (Mr. Barnes) reports on the sanitary work accomplished, which included visits and re-visits to houses 1,176, house-to-house inspections 217, notices served 457, nuisances abated 707, smoke observations 7, &c.

**Barrowford.**—(Area in acres. 1,385 : Estimated Population. 5,000).—*Medical Officer of Health*, F. E. DE BEEHO P.M. L.R.C.P.I. ; *Salary* £20.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years. 1894-1903.
Birth-rate .....	20·6	..	25·2	..	26·8
Death-rate .....	12·8	..	13·0	..	14·6
Zymotic death-rate .....	2·00	..	0·60	..	1·72
Phthisis .. .....	0·40	..	2·00	..	0·82
Respiratory .. .....	3·40	..	2·80	..	2·96
Rate of deaths under 1 year to 1,000 births.....	116	..	150	..	148

The birth-rate is the lowest recorded for the district, and the death-rate is also below the average. The zymotic rate, however, is increased owing mainly to 7 deaths from measles. Diarrhoea, typhoid fever, and diphtheria each contributed 1 death. Sixteen notifications were received, viz., scarlet fever and typhoid fever 5 each, diphtheria 2, and erysipelas 4.

*Hospital Accommodation.*—The arrangement with the Nelson Corporation to take cases of small-pox continues, but there is no provision for other infectious diseases.



*Disinfection.*—The Medical Officer of Health again urges upon the Council the desirability of procuring an apparatus for the disinfection of clothing, &c.

*Water Supply* very good, obtained from Nelson.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and irrigation. It is proposed to enlarge the present tanks and to construct bacteria beds. Scavenging is performed under the direction of the sanitary officials. Dr. Pim draws attention to “the disgraceful state of the main road and some of the streets in the township, the former being in a deplorable condition.”

*Sanitary Inspection.*—Certain cellar dwellings still exist which ought to be closed on sanitary grounds. Bakehouses and slaughter-houses as a rule are conducted satisfactorily, and the dairies and cowsheds are “well kept,” but the latter are deficient in air space, light, and ventilation. Dairy regulations are not in force. Factories were inspected, and as a result in many the closets were reconstructed on an improved system. Canal boats examined—8 in number—were clean. Only 4 notices were required for nuisance abatement.

**Billinge.**—(Area in acres, 4,596; Estimated Population, 4,350).—*Medical Officer of Health.* RICHARD O. MATHER, M.B.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	26.6	.. 34.4	..	33.2
Death-rate .....	16.0	.. 17.9	..	17.8
Zymotic death-rate.....	2.52	.. 0.69	..	1.78
Phthisis       ,, .....	0.68	.. 0.93	..	0.97
Respiratory   ,, .....	3.67	.. 3.02	..	3.48
Rate of deaths under 1 year				
to 1,000 births .....	206	.. 128	..	169

The birth-rate is lower than any recorded in the preceding decennial period, and the general death-rate is below

any year since 1899. The rate of deaths of infants under one year, however, is very high, and much above the average. This unsatisfactory state of things, says Dr. Mather, will continue as long as bottles with long feeding tubes are employed, and mothers fail to see the importance of giving suitable and properly prepared milk at proper feeding times, regulated according to the age of the infant. Measles—prevalent during the last quarter—caused 3 deaths, whooping cough 4 deaths, and diarrhœa 2 deaths. Three cases of small-pox were notified during the early part of the year, of which 1 terminated in death. The primary case was contracted at work outside the district, the second being the mother of this case, and the third, although no source of infection could be traced, occurred in the same locality. There was almost a total absence of scarlet fever, only 1 case being notified, against 36 cases last year. Enteric fever gave rise to little trouble in the district, 1 case only occurring. Diphtheria contributed 2 cases, erysipelas 1 case, and chicken-pox—made notifiable when the small-pox outbreak occurred—4 cases.

*Hospital Accommodation.*—An isolated cottage at Brownlow (4 beds) is reserved for small-pox, and the 3 cases reported were removed. Billinge is associated with many of the adjoining districts for the provision of a joint small-pox hospital.

*Disinfection.* No apparatus.

*Water Supply,* obtained from old quarry workings, is plentiful and of good quality.

*Sewerage, Scavenging, &c.*—No effluents have been obtainable from the sewage farm owing to complete absorption by the land or probable discharge into old colliery workings. Flushing of sewers is periodically carried out. Since the Council undertook scavenging few complaints have arisen.

*Sanitary Inspection.*—Bakehouses and slaughter-houses, and dairies and cowsheds are kept in good order. One old shippon has been demolished. Twenty-four inspections of factories and workshops are reported upon. The Inspector served 20 notices, and secured the abatement of 35 nuisances. One smoke observation was taken.

**Birkdale.**—(Area in acres, 2,699; Estimated Population, 15,000).—*Medical Officer of Health*, A. V. WHEELER, L.R.C.P.E.; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	19·6 ..	20·2 ..	22·1
Death-rate .....	13·7 ..	15·5 ..	14·3
Zymotic death-rate.....	1·06 ..	1·40 ..	0·84
Phthisis       ,, .....	1·20 ..	0·80 ..	1·00
Respiratory   ,, .....	2·40 ..	2·73 ..	2·16
Rate of deaths under 1 year to 1,000 births .....	125 ..	157 ..	139

As compared with the previous year, the birth-rate shows a decrease of 0·6 per 1,000, and the death-rate is reduced 1·8. The latter rate is the lowest recorded since 1898. The death-rate of children under one year shows a satisfactory improvement. Dr. Wheeler says, “a large number of children die annually from exposure, want of care, and improper feeding; it is difficult to make a lasting impression on mothers of the high value of milk only as a diet.” Measles and whooping cough were much less prevalent than in the previous year; each disease contributed 3 deaths, and diarrhœa accounted for 5 deaths. Scarlet fever—110 cases 5 deaths—was very prevalent and caused much anxiety, as the hospital accommodation at that time was not adequate to meet it. Typhoid fever was entirely absent, and diphtheria gave rise to only 1 case and that was imported. Erysipelas was accredited with 5 cases and puerperal fever 1 case.

*Hospital Accommodation.*—As already stated, the Swire Road hospital could not cope with the outbreak of scarlet fever, but now the new isolation hospital is finished and ready for use, and “will no doubt prove a big help in effectually controlling the spread of infectious disease.” Dr. Wheeler urges upon his Council the immediate necessity of preparing an isolation hospital for small-pox.

*Disinfection.*—An up-to-date disinfecting apparatus has been purchased.

*Water Supply* obtained from the Southport and Birkdale Joint Water Board.

*Sewerage, Scavenging, &c.*—Sewage treatment consists of septic action, precipitation, and filtration. The pumping machinery has been improved, and special attention was paid to the irrigation area. The receiving reservoir is now cleaned out twice a week. Sewers are flushed frequently, and the drains of the various public elementary schools are cleansed during the holiday periods. Scavenging is carefully performed by the Authority.

*Sanitary Inspection.*—Bakehouses and slaughter-houses receive frequent visits, and several improvements were insisted upon. The cowsheds are inspected monthly by a veterinary surgeon. Fifty-nine inspections of workshops were made and 20 defects discovered—12 having unsuitable sanitary conveniences, and 8 being in want of ventilation. During the year, 52 open privies were abolished and replaced by the water-carriage system. Considerable attention has been paid to the keeping of swine, and this has been sufficient in most cases to prevent any serious nuisance. The Inspector (Mr. Jump) reports on 270 nuisances which he dealt with. Fifty-eight notices were served, 7 smoke observations taken, &c.

**Bispham-with-Norbreck** —(Area in acres, 1,346 ; Estimated Population, 1,435).—*Medical Officer of Health*, JAMES JOHNSON, L.F.P.S.G. ; *Salary*, £20.

Per 1,000 of Population.	1904.	From April 15th. 1903.
Birth-rate .....	17·4	.. 23·0
Death-rate .....	14·6	.. 8·0
Zymotic death-rate.....	0·69	.. 1·00
Phthisis .. .. .	1·39	.. nil.
Respiratory .. .. .	1·39	.. 1·00
Rate of deaths under 1 year to 1,000 births.....	240	.. 130

The death-rate equals 14·6 per 1,000, but if the deaths of persons staying temporarily in the district were excluded the rate would be 11·8. Six deaths took place amongst children only a few days old, giving a very high mortality—3 occurred within six hours after birth. Only one death was attributed to the seven principal zymotic diseases, viz., typhoid fever—a visitor who was suffering from the disease on arrival in the district. Five notifications were received, viz., scarlet fever 2, and typhoid fever, diphtheria, and membranous croup 1 case each.

*Hospital Accommodation*.—Three cases—2 scarlet fever and 1 diphtheria—were removed to the joint hospital at Moss Side.

*Disinfection*.—During the year a formalin spray has been obtained. Houses are fumigated with sulphur, and the walls, furniture, clothing, &c., afterwards sprayed with a solution of formalin.

*Water Supply* is derived from the Fylde Joint Water Board. The water is soft and of a peaty nature.

*Sewerage, Scavenging, &c.*—At present sewage is collected in tanks and cesspools, excepting a portion which is turned into the Blackpool sewers. The new sewerage scheme, however, is nearing completion, the sewer outfall being already constructed. The storage culvert is of brick and concrete, egg shaped, 5 feet by 3 feet 4 inches, and about 290 yards long. The whole of the impounded sewage will be discharged into the sea at low water. The Gynn Estate sewer empties, by arrangement, into the main of the Blackpool Corporation. The sewage of other portions of the district is conveyed to tanks or cesspools. Scavenging has been carried out during the year much more satisfactorily than formerly. It is reported that many back streets are at times almost impassable through want of paving.

*Sanitary Inspection.*—Bakehouses and slaughter-houses appear to be kept in a clean condition, but cowsheds—44 in number—are not satisfactory. Nine of these have only 200-300 cubic feet of air space per cow, and 3 have less than 200 cubic feet per animal. Fourteen cowsheds are without any light at all, 11 are wanting in ventilation, and 6 are without drainage. This state of things ought not to be allowed to continue, and it is pleasing to note that on January 1st, 1905 cowshed regulations came into force. It is hoped that the Council will see that their requirements are complied with. Several alterations have been made at the factories (2) and workshops (15) in compliance with the provisions of the Factory Act. The Inspector (Mr. Maxwell) reports as follows:—

Number of premises inspected .. ..	140
„ „ nuisances abated .. ..	80
„ „ notices served .. ..	80
„ „ drains tested .. ..	20
„ „ water closets and ashpits improved	24
„ „ new houses certified fit for habitation	55



**Blackpool (Borough).**—(Area in acres, 3,601; Estimated Population, 54,338).—*Medical Officer of Health*, FRANCIS J. H. COURTTS. M.D., D.P.H.; *Salary*, £500.

Per 1,000 of Population.	Nine months ended 30th Sept., 1904.		1903.	Mean of 10 years. 1894-1903.	
Birth-rate .....	22·4	..	22·9	..	25·2
Death-rate .....	14·2	..	14·8	..	14·6
Zymotic death-rate.....	1·32	..	1·45	..	1·96
Phthisis „ .....	0·99	..	0·98	..	0·93
Respiratory „ .....	1·69	..	1·98	..	2·52
Rate of deaths under 1 year to 1,000 birth .....	148	..	135	..	158

On the 1st day of October, 1904, by Local Government Board's Provisional Orders Confirmation (No. 13) Act, 1904, Blackpool became a County Borough.

Dr. Coutts has supplied to the County Council copy of his Health Report for the year ended December 31st, and also Statistical Tables for the nine months ended 30th September, 1904. As the Borough on the date above mentioned ceased to form part of the area under the administration of the County Council, I only propose to refer briefly to the statistics for the nine months, to which period the averages for 1904 given above refer. The following diseases were notified: small-pox 5 cases, scarlet fever 132 cases with 3 deaths, typhoid fever 15 cases with 3 deaths, diphtheria and membranous croup 37 cases with 10 deaths, erysipelas 16 cases, puerperal fever 5 cases, measles 683 cases with 7 deaths, rōtheln 13 cases, and chicken pox 101 cases, or a total of 1007 notified cases. Diarrhœa gave rise to 27 deaths and whooping cough 3 deaths. The hospital accommodation consists nominally of 20 beds and 4 cots. During the period under report 168 cases were removed, viz., small-pox 5 (to the joint small-pox hospital at Elswick), scarlet fever 122,

typhoid fever 8, diphtheria 4, measles 27, and erysipelas 2. The number of nuisances abated from January 1st to September 30th was 1,384. Eighty-four smoke observations were taken.

**Blackrod.**—(Area in acres, 2,392; Estimated Population, 3,900).—*Medical Officer of Health*, J. W. UNSWORTH, M.B.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	29·2 ..	31·0 ..	31·0
Death-rate .....	18·4 ..	18·4 ..	15·5
Zymotic death-rate .....	2·82 ..	3·84 ..	2·42
Phthisis „ .....	0·25 ..	0·76 ..	0·53
Respiratory „ .....	4·87 ..	1·79 ..	2·92
Rate of deaths under 1 year to 1,000 births .....	175 ..	123 ..	129

The birth-rate is 1·8 per 1,000 below last year's rate, whilst the death-rate remains exactly the same. The infant rate is the highest recorded since 1898. Measles, although not the cause of any fatality, on one occasion necessitated school closure. Six deaths were due to diarrhoea, and 1 death to whooping cough. Scarlet fever—40 cases—was present from May to December. The whole district suffered, but Little Scotland most severely. Typhoid fever was responsible for 21 cases 3 deaths, diphtheria 5 cases 1 death, erysipelas 10 cases, and puerperal fever 3 cases.

*Hospital Accommodation.*—The new joint hospital at Fall Birch, Horwich, is almost completed, and it may be added that this district is one of the constituent authorities under an Order of the County Council for providing a small-pox hospital for many of the districts in this neighbourhood.

*Disinfection.*—No apparatus.

*Water Supply*, excellent in quality and abundant, is obtained from the Conneil's own reservoir at Rivington.

*Sewerage, Scavenging, &c.*—Sewage is dealt with by settlement and irrigation. As the area of the land is large the effluent is practically all absorbed. The Authority carry out scavenging.

*Sanitary Inspection.*—Periodical inspections are made of bakehouses, slaughter-houses, and dairies and cowsheds. The latter are not subject to regulations. Factories and workshops are said to comply with the requirements. The Inspector served 30 notices for the abatement of a like number of nuisances.

**Brierfield.**—(Area in acres, 807; Estimated Population, 7,600).—*Medical Officer of Health*, J. S. WILSON, M.B.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 6 years. 1898-1903.
Birth-rate .....	22·8 ..	26·9 ..	26·6
Death-rate .....	15·7 ..	14·1 ..	13·9
Zymotic death-rate.....	2·50 ..	1·20 ..	1·95
Phthisis „ .....	1·05 ..	0·13 ..	0·87
Respiratory „ .....	5·13 ..	4·40 ..	2·92
Rate of deaths under 1 year to 1,000 births .....	149 ..	158 ..	163

The birth-rate, 4·1 per 1,000 below the rate for 1903, is the lowest recorded for some years, but the death-rate is the highest since 1899. The zymotic, phthisis, and respiratory rates are also above the average. Last year measles and whooping cough did not cause any fatality, but during the period under review the deaths were 4 and 5 respectively. The most noticeable feature of the year was an outbreak of

diphtheria. A family went to Lincolnshire for the August holidays, and whilst there all suffered from an attack of sore throat and one died. On their return relatives and neighbours were attacked, one of the latter introducing the complaint into the Catholic school, where the personal contact of children had an important influence in the dissemination of the disease. This school was closed for a fortnight, and thoroughly disinfected, and pamphlets were distributed warning the inhabitants to call in medical aid in case of sore throat. Altogether diphtheria caused 63 cases and 8 deaths. Scarlet fever was responsible for 8 cases 2 deaths, erysipelas 14 cases, and puerperal fever 1 case.

*Hospital Accommodation* is provided at the Burnley, &c.. joint sanatorium. Nineteen cases were removed, viz., diphtheria 16, scarlet fever 2, and puerperal fever 1.

*Disinfection*.—Steam apparatus at Burnley available.

*Water Supply* of good quality obtained from the Nelson Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated in septic tanks and double contact beds. A small filter and tank have been constructed for dealing with sludge from troughs. Scavenging receives attention from the sanitary officials. Over 500 tons of refuse were taken to the Nelson Corporation destructor.

*Sanitary Inspection*.—Bakehouses and slaughter-houses are described as being in good condition, and dairies and cowsheds as “fair.” Unfortunately, dairy, &c., regulations have not yet been adopted. Thirty inspections were made of factories and workshops, and only 2 defects were discovered. Eleven canal boats examined complied with the regulations. The Inspector (Mr. Halstead) gives details of 60 nuisances dealt with.

**Carnforth.**—(Area in acres, 1,505 ; Estimated Population, 3,100).—*Medical Officer of Health*, EDWARD S. JACKSON, M.D. ; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate.....	26·7 ..	33·1 ..	29·6
Death-rate .....	10·6 ..	16·7 ..	12·5
Zymotic death-rate.....	0·32 ..	0·32 ..	0·60
Phthisis       ,, .....	0·64 ..	nil. ..	0·74
Respiratory   ,, .....	2·58 ..	1·31 ..	1·95
Rate of deaths under 1 year to 1,000 births .....	132 ..	148 ..	105

As compared with last year the birth and death rates show decreases of 6·4 and 6·1 per 1,000 of the population respectively. The zymotic rate is exactly the same, and the infant mortality is rather more favourable. Measles broke out in epidemic form on two occasions—June and October—but fortunately no deaths resulted. On each occasion school closure was resorted to. Whooping cough gave rise to 1 death. Six notifications were received, viz., scarlet fever 4 and typhoid fever 2.

*Hospital Accommodation.*—The isolation hospital is an iron structure, situated at Crag Bank, and has two wards to hold six beds each. There is a separate room for two nurses, a caretaker's detached residence, and the necessary outbuildings. It is built on a very good and dry eminence and is well isolated. No cases were treated during 1904.

*Disinfection.*—No proper appliances.

*Water Supply* obtained from the reservoir of the Carnforth Waterworks Company, situate at Withets, the gathering ground for which is partly of a peaty and partly of a sand stone nature. The water passes through carbon filters before distribution.

*Sewerage, Scavenging, &c.*—Sewage is turned into tanks for subsidence before being discharged into the tidal portion of the River Keer. Periodical flushing of all sewers is carried out. Scavenging is performed satisfactorily by contract.

*Sanitary Inspection.*—Systematic inspection of the district takes place. The house accommodation is very satisfactory. Bakehouses and slaughter-houses are well kept, and factories and workshops comply with sanitary requirements. Dairies and cowsheds are not subject to regulation. Twenty-five notices were served for nuisance abatement.

**Chadderton.**—(Area in acres, 3,082 ; Estimated Population, 25,800).—*Medical Officer of Health*, HAROLD ASHTON, L.R.C.P.E. ; *Salary*, £65.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·9	.. 28·0	.. 27·5
Death-rate .....	17·9	.. 17·3	.. 18·4
Zymotic death-rate.....	1·97	.. 2·00	.. 2·15
Phthisis       , ..	1·51	.. 1·17	.. 1·37
Respiratory   , ..	3·17	.. 3·29	.. 3·70
Rate of deaths under 1 year to 1,000 births .....	152	.. 181	.. 176

The mortality statistics presented by Dr. Ashton vary but little from those of the preceding year. Measles was present almost the whole of the year, and on one occasion necessitated school closure. This disease was responsible for 29 deaths, whilst whooping cough and diarrhoea contributed 8 and 5 fatalities respectively. Small-pox gave rise to 49 cases 2 deaths. In addition 2 other cases were notified, but proved not to be small-pox. Twenty-six of the persons attacked were under 15 years of age and were all unvaccinated. The two deaths were—one an unvaccinated seven weeks old baby, and the other an unvaccinated man, age 34 years. The disease on the whole was of a mild type and this fact in some



instances was responsible for the spread of the disease. At the end of the year a number of cases occurred amongst children attending a particular class at Christ Church school, which was consequently kept closed after Christmas longer than usual. All the persons attacked were isolated in hospital. Scarlet fever was accredited with 147 cases 4 deaths, typhoid fever 7 cases, diphtheria 26 cases 3 deaths, erysipelas 12 cases, puerperal fever 1 case, and chicken-pox—temporarily notifiable—63 cases.

*Hospital Accommodation* is provided at the joint hospital at Cinder Hill for small-pox, and occasionally the Westhulme hospital belonging to the Oldham Corporation is used for other infectious diseases. Altogether 64 cases received hospital treatment, viz., small-pox 49, scarlet fever 12, and typhoid fever 3.

*Disinfection.*—Steam appliances are provided at the small-pox hospital. For the ordinary necessities of the district there is no provision.

*Water Supply* good, obtained from Oldham.

*Sewerage, Scavenging, &c.*—Sewage is treated on the international system, but a portion of the district is not yet connected up. For polluting the River Irk by sewage from Middleton Junction and Chadderton Fold the Council were, at the instigation of the Mersey and Irwell Joint Committee, fined in November last. The Authority carry out scavenging in a satisfactory manner.

*Sanitary Inspection.*—Many back yards are unpaved and consequently wet and insanitary. Bakehouses and slaughter-houses—regularly inspected—are satisfactory, but there is room for improvement in some of the cowsheds. Factory inspection revealed several defects, the majority of which have been remedied. Twenty-nine notices were served, and as a result 20 nuisances abated.

**Childwall.**—(Area in acres, 830 ; Estimated Population, 220).—*Medical Officer of Health*, HENRY HARVEY, M.B.; *Salary*, £20.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years. 1894-1903.
Birth-rate .....	22·7	..	4·5	..	14·6
Death-rate .....	13·6	..	4·5	..	3·2
Zymotic death-rate.....	nil.	..	nil.	..	0·48
Phthisis „ .....	nil.	..	nil.	..	nil.
Respiratory „ .....	9·09	..	nil.	..	0·47
Rate of deaths under 1 year to 1,000 births .....	nil.	..	nil.	..	160

During the period under report there were 5 births and 3 deaths. The general health of the district was excellent, no deaths being attributed to infectious disease, and no cases were notified.

*Hospital Accommodation.*—An arrangement has been entered into with the Liverpool Corporation whereby cases from this district can be removed to the City hospitals.

*Disinfection.*—No special appliances. In case of infectious disease, houses are fumigated with sulphur, and the infected articles of clothing, bedding, &c., receive disinfection at Liverpool.

*Water Supply* good (Liverpool).

*Sewerage, Scavenging, &c.*—Sewage flows into cesspools situate in fields. Scavenging is partly carried out by the Authority and partly by farmers.

*Sanitary Inspection.*—There is very little to report under this head. All nuisances discovered were remedied without recourse to legal notice. Dairies are on the whole satisfactory, but not subject to regulation.

**Chorley (Borough)**—(Area in acres, 3,614; Estimated Population, 28,500).—*Medical Officer of Health*, JAS. A. HARRIS, M.D. (Lond.); *Salary*, £60 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	27·4 ..	29·4 ..	30·4
Death-rate .....	16·0 ..	16·7 ..	20·0
Zymotic death-rate.....	0·94 ..	1·39 ..	2·01
Phthisis „ .....	0·73 ..	1·25 ..	1·09
Respiratory „ .....	2·94 ..	2·82 ..	3·74
Rate of deaths under 1 year to 1,000 births.....	170 ..	146 ..	187

The death-rate is more favourable than in any previous year, while the birth-rate, although not the lowest recorded, is considerably below the average. The zymotic rate shows a gratifying diminution, but the infantile mortality is not satisfactory. Measles was prevalent during some portion of the year, and 8 deaths were registered. Whooping cough and diarrhoea each yielded 5 deaths. Scarlet fever was somewhat prominent, 179 cases being notified with 5 deaths. Ninety per cent. of the persons attacked were isolated in the joint hospital. Dr. Harris reports that he is still of opinion that in some cases the more valuable articles of clothing are wilfully concealed, and that re-infection occurs in those houses when the articles are again brought into use. On more than one occasion, after an interval of some weeks, and whilst the patient was still in hospital, a second case has been notified from the same house, though every endeavour had been made to thoroughly disinfect the house and clothing. Typhoid fever is still on the decrease, only 9 cases with 1 death being reported during the year. The remaining infectious diseases were diphtheria and membranous croup 5 cases 3 deaths, erysipelas 15 cases 1 death, and puerperal fever 2 cases 1 death.

*Hospital Accommodation.*—The joint hospital at Heath Charnock was used for the isolation of 166 cases—162 scarlet fever and 4 typhoid fever. An arrangement exists with the Blackburn Corporation whereby beds at the Finnington small-pox hospital are always kept in readiness for cases occurring in any of the constituent districts of the Chorley, &c., Joint Hospital Board.

*Disinfection.*—The steam apparatus was used for the disinfection of 4,041 articles of clothing, bedding, &c., and 244 rooms were fumigated.

*Water Supply* good, obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration at four outfall works. The sewerage of Cowling district is now completed, and the purification works, including precipitating tanks, filters, lagoons, &c., are nearly finished. Additional sewerage has also been carried out in other parts of the Borough. The whole of the sewers are flushed at intervals, and back yards, slop-stone drains and water-closets also receive periodical attention. The Corporation undertake scavenging. A refuse destructor has recently been constructed, and is now in operation.

*Sanitary Inspection.*—House accommodation on the whole is very good; there are very few back-to-back houses, or those in which overcrowding exists. Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds are all in good condition, and factories and workshops generally give satisfaction. Unsound food condemned amounted to 2,610 lbs. At the oilcloth works alterations have now been completed to obviate the smells arising from the process of manufacture, and the nuisance is not now nearly so bad as formerly. The Inspector gives details of 1,072 nuisances abated or sanitary alterations made. Thirty-four smoke observations were taken.

**Church.**—(Area in acres, 529; Estimated Population, 6,700.)—

*Medical Officer of Health*, A. B. CRAIG, M.B. ; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·1 ..	25·9 ..	26·7
Death-rate .....	16·1 ..	16·6 ..	16·7
Zymotic death-rate .....	2·53 ..	1·51 ..	2·26
Phthisis ..	0·44 ..	1·06 ..	1·03
Respiratory ..	4·02 ..	3·18 ..	3·50
Rate of deaths under 1 year to 1,000 births .....	192 ..	134 ..	159

A birth-rate fractionally above the average of previous years is accompanied by a death-rate slightly more favourable. The zymotic and infant rates are increased, due principally to measles and diarrhoea which caused 7 and 8 deaths respectively. The Medical Officer of Health says the high infantile mortality is “a blot on the reputation of the township, but so long as the present system continues of mothers practically sacrificing their offspring for the sake of speedily resuming their employment in the mills we must trust in a great measure to favourable climatic conditions, and freedom from epidemics for a low rate of infant deaths.” Whooping cough, membranous eroup, and puerperal fever each contributed one death. Twenty-five cases of infectious disease were notified, viz : scarlet fever 12, typhoid fever 6, diphtheria and membranous eroup 4, erysipelas 2, and puerperal fever 1.

*Hospital Accommodation* nil.

*Disinfection.*—A “disinfecting chamber” at the gas works is provided.

*Water Supply* has been in every way satisfactory; it is obtained from the Accrington, &c., Joint Board.

*Sewerage, Scavenging, &c.*—Sewage is treated at the Copy Clough works of the Accrington and Church Joint Board

by open septic tanks, sprinkler filters, and small sedimentation tanks. Further works for effluent and storm water are under consideration. The employees of the Council satisfactorily carry out scavenging.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, and dairies and cowsheds are well kept, and 76 inspections of factories and workshops revealed only 5 defects. During the year 58 closets were converted to the water-carriage system, and privy ashpits, of which there were 250 ten years ago, have completely disappeared. Sixty-five canal boats were examined. A public mortuary has been erected during the year. The Inspector secured the abatement of 79 nuisances, served 82 notices, took 55 smoke observations, &c.

**Clayton-le-Moors.**—(Area in acres, 1,059 ; Estimated Population, 8,500).—*Medical Officer of Health*, L. TATTERSALL, M.R.C.S. ; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·1 ..	28·3 ..	28·0
Death-rate .....	16·5 ..	16·4 ..	16·0
Zymotic death-rate.....	2·82 ..	1·19 ..	1·95
Phthisis           ,, .....	0·47 ..	0·47 ..	0·78
Respiratory       ,, .....	3·05 ..	2·61 ..	2·77
Rate of deaths under 1 year to 1,000 births .....	151 ..	151 ..	160

With the exception of the zymotic rate the mortality statistics for the year under review vary but slightly from those of 1903. The most prominent feature of the year was the outbreak of measles in the first quarter of the year, when from 150 to 200 houses were infected. To stem the progress of the disease an order was issued for the closure of the schools throughout the district for a period of three weeks. There was undoubted



benefit accruing from this action, the illness gradually subsiding. Eleven deaths were due to measles ; diarrhœa contributed 6 deaths, and whooping cough 4. Scarlet fever gave rise to 15 cases, typhoid fever 6 cases 1 death, diphtheria and membranous croup 4 cases 2 deaths, erysipelas 16 cases 1 death, and puerperal fever 1 case 1 death.

*Hospital Accommodation* nil. For small-pox an arrangement with Accrington exists to take cases from this district.

*Disinfection*.—No apparatus.

*Water Supply*, obtained from Accrington, is clear, bright, and free from smell ; acidity slight.

*Sewerage, Scavenging, &c.*—Sewage is treated at the Clayton-le-Moors and Great Harwood joint outfall works. The laying out and underdraining of ten acres additional land has been completed and brought into operation, and three storm water filters have been constructed. Scavenging is carried out by the Authority with “entire satisfaction.” A refuse destructor is recommended.

*Sanitary Inspection*.—The old system of private slaughter-houses still obtains in the district, and is to be condemned, and the condition of farms, cowsheds, &c., leaves room for improvement in the matters of ventilation, cubic space for cattle, and general cleanliness. In the factories and workshops there are conditions requiring alteration in respect of sanitary conveniences, defects being discovered regarding position, structure, ventilation, &c. At the request of the Local Education Subcommittee the Medical Officer of Health and Inspector made an investigation into the sanitary condition of the schools. Twenty notices were served for nuisance abatement. Smoke observations were taken.

**Clitheroe (Borough).**—(Area in acres, 2,385; Estimated Population, 11,550).—*Medical Officer of Health*, WM. E. BARKER, M.B.; *Salary*, £40.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years, 1894-1903.
Birth-rate .....	24·4	..	23·8	..	24·7
Death-rate .....	16·7	..	15·7	..	16·5
Zymotic death-rate .....	2·16	..	2·00	..	1·83
Phthisis           ,,       .....	0·69	..	0·86	..	1·06
Respiratory       ,,       .....	2·42	..	2·43	..	2·66
Rate of deaths under 1 year to 1,000 births.....	138	..	131	..	141

The statistics as compared with 1903 are marked by increases in the birth and death rates of 0·6 and 1·0 per 1,000 of the population respectively. The zymotic and infant rates are also slightly in excess of the preceding year. A severe epidemic of measles occurred during the last four months entailing closure of four or five schools and resulting in the loss of 16 lives of children under five years of age. Whooping cough prevailed to a considerable extent during the early months of the year, and caused 5 deaths. The infant departments of one or two schools were closed for a short period on account of the prevalence of this disease. Dr. Barker states that a considerable number of lives are lost annually by preventable diseases, due in many instances to the ignorance and carelessness of the parent. He says “one means of obviating in the future this deplorable state of things would be the teaching of the elementary laws of hygiene in the public elementary schools.” Scarlet fever was responsible for 34 cases, typhoid fever 3, diphtheria and membranous croup 13 (4 fatal), and erysipelas 3. The Council have now made arrangements for bacteriological examinations in doubtful cases of certain infectious diseases. Dr. Barker recommends the voluntary notification of phthisis, and states that “expectoration in public places should be a punishable offence.”

*Hospital Accommodation.*—There is no provision for ordinary infectious diseases. A small hospital—8 beds—at Salt Hill, erected jointly by the Corporation and the Clitheroe Rural Council is available for small-pox.

*Disinfection.*—No apparatus. Houses are fumigated with sulphur.

*Water Supply,* excellent in quantity and quality, is derived from local upland sources.

*Sewerage, Scavenging, &c.*—Sewage is treated by settlement or precipitation and irrigation. Eighty-five per cent. of the houses are now connected to the main sewers, which are periodically flushed. Several ventilating shafts have been erected during the year. The Authority carry out scavenging in an efficient manner.

*Sanitary Inspection.*—House accommodation is, on the whole, satisfactory, but there is a considerable amount of old property, and there are still 282 back-to-back houses, only two having been converted into a single house during the past year. Three houses were demolished to make room for new buildings. Bakehouses—21 in number—do not call for special comment. There is a public slaughter-house and six private premises; the former is deficient in regard to accommodation, and plans and estimates are prepared for a new abattoir on an adjoining site. Dairies are all in a satisfactory condition, but the same remark cannot be applied to the cowsheds—they are kept clean, but many are decidedly defective as regard air space, lighting, and ventilation. Seventy-one visits were made to factories and workshops, and 5 defects noted. Water-carriage is gradually replacing the privy system, only a few of the latter now remaining. The Inspector (Mr. Davies) reports on 309 nuisances dealt with. Several smoke observations were taken.

**Colne (Borough).**—(Area in acres, 5,063; Census Population, 23,000).—*Medical Officer of Health*, W. LYONS LOVETT, L.R.C.P.E.; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·7 ..	25·8 ..	28·1
Death-rate .....	14·0 ..	13·5 ..	15·5
Zymotic death-rate .....	1·60 ..	0·86 ..	2·21
Phthisis „ .....	1·30 ..	1·43 ..	1·19
Respiratory „ .....	2·39 ..	2·91 ..	3·68
Rate of deaths under 1 year to 1,000 births .....	163 ..	131 ..	166

The birth-rate, almost identical with last year's rate, is 2·4 per 1,000 below the mean of the 10 years 1894-1903. The death-rate is fractionally increased as compared with 1903, and the zymotic and infant rates are also less favourable. Dr. Lovett again refers at some length to the importance of proper feeding and care of young infants. Measles, the cause of 22 deaths, was prevalent for a time, and necessitated school closure. Seven deaths were due to whooping cough, and 5 to diarrhœa. There was a great decrease in the number of infectious cases notified, scarlet fever having the lowest number reported during the last 12 years, viz., 36, or 114 less than the previous year. Typhoid fever contributed 9 cases 1 death, diphtheria and membranous croup 11 cases, and erysipelas 15 cases 1 death.

*Hospital Accommodation.*—A farmhouse has been converted into a small-pox hospital, and it is stated that terms have been arranged with the Burnley Joint Hospital Board to take cases of other infectious diseases from this district, but no removals took place.

*Disinfection.*—No apparatus.

*Water Supply* is ample, but complaints have been received regarding the colour and the presence of flocculent matter.

*Sewerage, Scavenging, &c.*—The extension scheme at the sewage works has now been almost completed. The treatment consists of open septic tanks and double contact beds. Scavenging, in the hands of the Corporation, is efficiently performed. The refuse destructor continues to do good work.

*Sanitary Inspection.*—Bakehouses, 23 in number, of which 5 are underground, have from time to time been inspected, and found in good sanitary condition. Slaughter-houses and lodging-houses, with the exception of minor breaches of the bye-laws, were also satisfactorily conducted. Some of the dairies and cowsheds are “very bad,” and others “fair.” The inspection of factories and workshops revealed only a few slight defects. Three privy middens were converted to the waste-water system. The Inspector (Mr. Sugden) gives details of the sanitary work accomplished, including 163 notices served, 157 nuisances remedied, 89 smoke observations, &c. Of the latter, 27 chimneys emitted black smoke in such a quantity as to be a nuisance, and notices or letters were served upon the offenders.

**Crompton.**—(Area in acres, 2,865; Estimated Population, 13,500).—*Medical Officer of Health*, WILLIAM BROOKE, M.A., M.D.; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	23·0 ..	22·6 ..	26·0
Death-rate .....	17·9 ..	16·7 ..	18·1
Zymotic death-rate .....	1·77 ..	1·92 ..	1·53
Phthisis „ .....	1·25 ..	0·59 ..	1·09
Respiratory „ .....	2·88 ..	3·40 ..	3·70
Rate of deaths under 1 year to 1,000 births .....	183 ..	173 ..	181

With the exception of 1903 the birth-rate is the lowest recorded, and 3·0 per 1,000 of the population below the mean



of the preceding decade. The zymotic rate, phthisis rate, and infant rate are each fractionally above the ten years' average. Measles became epidemic in Higher Shaw during the month of November and necessitated school closure: 6 deaths were due to this disease. Diarrhœa gave rise to 13 fatalities, and whooping cough 2. Two cases of small-pox occurred—one in May and the other in September. Scarlet fever, chiefly of a mild type, was responsible for 35 cases 1 death, typhoid fever 11 cases 1 death, diphtheria and membranous croup 4 cases, erysipelas 8 cases, puerperal fever 3 deaths, only 1 case being notified, and continued fever 1 case.

*Hospital Accommodation.*—The 2 cases of small-pox were removed to the joint small-pox hospital at Cinder Hill, and 4 cases were removed to the Westhulme hospital, Oldham, viz. : typhoid fever 3, and scarlet fever 1.

*Disinfection.*—A “Thresh” disinfectant is available.

*Water Supply,* obtained from the Oldham Corporation.

*Sewerage, Scavenging, &c.*—Sewage is dealt with at two outfall works—Low Crompton and Newhey. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from the latter works. Scavenging is performed in an efficient manner by the Council's employees.

*Sanitary Inspection.*—Two houses, unfit for human habitation, were condemned. Bakehouses, lodging-houses, and slaughter-houses are, on the whole, kept clean and well conducted. There are 54 cowsheds and dairies in the district, but these are not subject to regulations. Several of the smaller places are structurally defective. The 85 factories and workshops received 115 visits, 23 defects being noted. The Inspector (Mr. Cook) served 197 preliminary or legal notices, and, as a result, secured the abatement of 186 nuisances.



**Croston.**—(Area in acres, 2,347; Estimated Population, 2,120).—*Medical Officer of Health*, ALFRED DUCKWORTH, L.R.C.P.E.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	28·7	.. 18·3	.. 25·8
Death-rate .....	16·5	.. 15·5	.. 14·7
Zymotic death-rate .....	0·47	.. 1·41	.. 1·16
Phthisis „ .....	1·88	.. 0·94	.. 0·59
Respiratory „ .....	4·24	.. 3·76	.. 2·40
Rate of deaths under 1 year to 1,000 births .....	147	.. 51	.. 120

The statistics are marked by an increase in the birth-rate, as compared with last year, of no less than 10·4 per 1,000 of the population. The general death-rate is increased 1·0, while the infantile mortality shows a considerable advance. The latter is, however, mainly accounted for by the deaths of 5 prematurely born infants. The district was remarkably free from the notifiable infectious diseases, not a single case being reported. There were a few cases of whooping cough, one having a fatal termination.

*Hospital Accommodation.*—The West Lancashire Rural District Council's hospital at Aughton is said to be available.

*Disinfection.*—The “Thresh” disinfector at hospital may be used in case of necessity.

*Water Supply* good, obtained from pumps and wells, but certain parts of the district have no proper supply.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and irrigation. Scavenging—performed by the Authority—has been carried out “as efficiently as possible under the existing conditions.”

*Sanitary Inspection.*—One insanitary house was condemned as unfit for human habitation. Bakehouses and

slaughter-houses are “well cared for,” but dairies and cow-sheds are not subject to regulation, and are not inspected! Fifty-six visits were paid to factories and workshops. The sanitary officials experienced very little trouble in getting nuisances abated, and only 1 notice was required.

**Dalton-in-Furness.**—(Area in acres, 7,990: Census Population, 13,020).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £110.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·5 ..	28·9 ..	30·0
Death-rate .....	12·3 ..	14·8 ..	15·6
Zymotic death-rate .....	1·15 ..	1·38 ..	1·58
Phthisis „ .....	1·22 ..	1·53 ..	1·13
Respiratory „ .....	2·76 ..	2·38 ..	2·90
Rate of deaths under 1 year to 1,000 births .....	105 ..	135 ..	145

The mortality statistics presented by Dr. Patterson compare favourably with previous years—the general death-rate and the infant rate being lower than any recorded during the past decennial period. The averages in the three sub-divisions were as follows:—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile mortality.
Dalton and Newton.....	29·1 ..	13·1 ..	1·56 ..	126
Lindal and Marton .....	24·6 ..	7·8 ..	nil. ..	nil.
Askam and Ireleth .....	24·0 ..	11·5 ..	0·31 ..	65

Measles—the cause of 3 deaths—was prevalent in Dalton during the early part of the year, and its prevalence in Askam made it necessary to close the schools in October. Diarrhœa contributed 5 deaths and whooping cough 1 death. Scarlet-fever was also very troublesome in Dalton, and gave rise to the necessity for school closure during the first quarter. The disease was of a very mild type, only 2 deaths occurring out

of 99 cases reported. It is a matter for much satisfaction that typhoid fever, which appeared to be endemic in the district a few years ago, is now quite rare, the outbreaks being more sporadic in character. The improvement is probably due to altered sanitary conditions, especially the conversion of the filthy privy middens into w.c.'s. Diphtheria, associated with membranous croup, was accredited with 13 cases 4 deaths, erysipelas 13 cases, and puerperal fever 1 case (fatal).

*Hospital Accommodation.*—The joint hospital, situate at High Carley, was used for the isolation of 42 cases of scarlet fever and 9 of diphtheria.

*Disinfection.*—No apparatus. Forty rooms were fumigated.

*Water Supply.*—No scarcity of water—supplied by Barrow—was experienced, and the quality was generally above suspicion. An adequate supply of water has recently been provided for the Hamlet of Woodbine. A few scattered districts are still in want of a good supply.

*Sewerage, Scavenging, &c.* Sewage is discharged into the sea after subsidence in tanks. At Askam a new sewerage and sewage disposal scheme has been carried out, and in other parts of the district additional lengths of sewer have been laid. Scavenging is carried out satisfactorily by the Authority.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are described as “fair.” One of the latter, at Dalton, has now been closed on account of its unsuitable situation and structural unfitness. Dairies and cowsheds are “only” moderate. Visits to factories and workshops amounted to 383, and only 6 defects were discovered. Privy middens are gradually being converted to the water-carriage system, 79 being so altered during 1904. The Inspector (Mr. Proctor) served 133 notices for the abatement of nuisances on 152 premises.

**Darwen (Borough).**—(Area in acres, 5,959; Estimated Population, 39,516).—*Medical Officer of Health*, F. G. HAWORTH, M.B., C.M., D.P.H.; *Salary*, £200.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	20·7 ..	24·0 ..	26·9
Death-rate .....	15·3 ..	12·8 ..	16·3
Zymotic death-rate .....	2·63 ..	0·76 ..	1·89
Phthisis „ .....	0·96 ..	0·56 ..	0·79
Respiratory „ .....	2·60 ..	2·40 ..	3·51
Rate of deaths under 1 year to 1,000 births .....	150 ..	124 ..	163

A decrease in the birth-rate of 3·3 per 1,000 of the population, as compared with last year, is accompanied by an increase in the general death-rate of 2·5. The former rate is the lowest recorded for many years, and is 6·2 below the mean of the preceding decade. The zymotic rate shows a considerable increase, mainly owing to the deaths from measles (29), whooping cough (28), and diarrhoea (9). Last year these diseases caused 13, 8, and 3 fatalities respectively. The prevalence of the first-mentioned disease necessitated school closure on several occasions. Dr. Haworth again publishes valuable statistics as to deaths in regard to occupation with a view of showing the particular diseases certain classes of workers are liable to, and thus giving grounds to work upon to avert the dangers of such occupations. Small-pox gave rise to 2 cases 1 death. The first case occurred in October—a man who had been tramping in search of work. He was promptly removed to the Bull Hill hospital where he died nine days later. The second case broke out in December; the sufferer was removed to a farm owned by the Corporation, and the necessary nurse and other help secured. Scarlet fever, after a three years' period of quiescence had an extensive prevalence, no less than 689 cases being notified, with 22 deaths. Last year only 30 cases were reported. The disease began with 8 cases

in January, and progressed month by month as follows :— February 15, March 17, April 21, May 34, June 41, July 55, August 58, September 77, October 111, November 171, and December 81. The rise was gradual until August, which had only 3 more cases than the previous month. This check was no doubt due to the holidays then taking place, when school children would be scattered, and not congregated in close proximity in the schools. After the re-opening, as the disease had not died out, mild undetected cases again met with susceptible children in the schools, and an aggravation of the old outbreak occurred. There was no doubt a deal of negligence on the part of patients and parents. Unfortunately, only 13 per cent. of the cases were isolated in hospital. School closure was resorted to, but the value of this measure was very considerably minimised by the fact that the outbreak was too great to be controlled by the short period of closure. Diphtheria, combined with membranous croup, was responsible for 34 cases 7 deaths. The Corporation supply, free of charge, anti-diphtheritic serum. Typhoid fever was accredited with 20 cases 8 deaths, puerperal fever 5 cases 3 deaths, and erysipelas 35 cases. Dr. Haworth, after carefully watching the benefits accruing from notification of the last-mentioned disease, thinks that the time is now opportune for its deletion. Thirty-eight deaths were ascribed to phthisis, and in order that the sanitary officials can take measures for preventing its spread, it is desirable, in the opinion of the Medical Officer of Health, to include it in the list of notifiable diseases.

*Hospital Accommodation*, at Bull Hill, consists of 20 beds and 4 cots. As previously stated, one of the cases of small-pox was removed there, and the other to a farmhouse. Ninety cases of scarlet fever were also isolated in the hospital. The Council has under consideration the question of preparing a well-isolated place for the reception of future cases of small-pox.



*Disinfection.* Steam apparatus at the hospital is available. 391 van loads of infected bedding, clothing, &c., being disinfected. Houses are fumigated with sulphur, and afterwards sprayed.

*Water Supply* has been maintained, in spite of the extended drought, both as regards quantity and quality.

*Sewerage, Scavenging, &c.*—The Borough Engineer is engaged in converting the original method of sewage purification, viz. :—the International to the bacterial system. The work is progressing rapidly, and, within a short time, the new system will be in operation at a lessened cost, and it is expected that increased efficiency will be secured. Scavenging is carried out satisfactorily by the Corporation employees.

*Sanitary Inspection.*—Bakehouses, on the whole, are clean, and steps are being taken to make the underground bakehouses conform with the regulations. At the slaughterhouses many structural alterations have been effected, and the lodging-houses were maintained in their usual state of cleanliness. The municipal lodging-house enables the health officials to keep a watchful eye on the majority of vagrants passing through the town. The whole of the farms in the Borough have been thoroughly inspected, and kept in as good a condition as possible. When necessary, alterations regarding drainage, lighting, ventilation, and water supply have been carried out. Factories and workshops are inspected from time to time, 434 visits being paid to these premises during the year. Thirty-three defects were noted, chiefly want of cleanliness and deficient ventilation. Full details of the work accomplished in the Sanitary Inspector's department are given, including nuisances dealt with 1,461, nuisances abated 1,221, preliminary notices served 1,045, legal notices 495, houses inspected 5,041, re-inspections of premises 3,173, &c. Only four smoke observations were taken, the average amount of black smoke emitted being  $9\frac{1}{4}$  minutes per hour.



**Denton.**—(Area in acres, 2,594; Estimated Population, 15,489).—*Medical Officer of Health*, F. W. ALLKIN, M.B.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·1 ..	25·3 ..	26·4
Death-rate .....	15·9 ..	14·8 ..	17·2
Zymotic death-rate .....	1·62 ..	1·37 ..	1·68
Phthisis           ,,       .....	0·90 ..	1·04 ..	1·33
Respiratory       ,,       .....	2·98 ..	1·83 ..	2·79
Rate of deaths under 1 year to 1,000 births .....	190 ..	180 ..	178

The birth-rate is almost identical with last year's rate, but the mortality statistics are less favourable. Measles did not cause a single fatality, but whooping-cough and diarrhoea each contributed 8 deaths. Five cases of small-pox were notified, 3 in January, all occurring at one house to which the infection had been carried from Manchester. The next case—imported from Hyde—occurred in July, and the last attack was reported in September. All were promptly isolated in hospital and recovered. Scarlet fever had an extensive prevalence, viz. :—101 cases with 4 deaths. The majority of the attacks took place in the Haughton Green districts, where it was found necessary to adopt school closure. Typhoid fever was responsible for 17 cases 3 deaths, diphtheria and membranous croup 5 cases 2 deaths, and erysipelas 25 cases. The Council offer to supply diphtheritic anti-toxin free of charge to necessitous cases, and this privilege has been taken advantage of.

*Hospital Accommodation.*—A retaining fee is paid for the use of two beds at the Hyde Corporation hospital. The 5 cases of small-pox were removed, but only one, out of 101 cases of scarlet fever, was isolated in hospital.

*Disinfection.*—No apparatus.

*Water Supply*, wholesome and good, is supplied by the Manchester Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation, bacteria beds, and intermittent downward filtration. Scavenging is carried out in a satisfactory manner by the Council's own staff.

*Sanitary Inspection.*—Nine houses were condemned as unfit for human habitation. Dairies and cowsheds, bake-houses, slaughter-houses, and factories and workshops were all periodically inspected. At the latter many desirable improvements were carried out. Forty-five notices were served, and, in most cases, the nuisances referred to were abated, but in two instances legal proceedings had to be resorted to. Both prosecutions were successful.

**Droylsden.**—(Area in acres, 1,010; Estimated Population, 11,700).—*Medical Officer of Health*, ANDREW GELLATLY, M.B.; *Salary*, £25 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	29.1 ..	26.5 ..	30.2
Death-rate .....	19.1 ..	14.6 ..	17.2
Zymotic death-rate.....	1.62 ..	0.95 ..	2.29
Phthisis           ,, .....	1.19 ..	1.21 ..	0.89
Respiratory       ,, .....	3.67 ..	3.39 ..	3.80
Rate of deaths under 1 year to 1,000 births .....	193 ..	154 ..	166

As compared with last year the birth and death rates were increased 2.6 and 4.5 per 1,000 of the population respectively. The zymotic rate rose from 0.95 to 1.62, and the infantile mortality from 154 to 193. Nine deaths were due to measles, 6 to whooping cough, and 3 to diarrhoea. Small-pox gave rise to 3 cases—2 in May and 1 in July. Hospital

isolation was promptly obtained and the usual precautionary measures adopted. Searlet fever of a mild type contributed 47 cases, typhoid fever 7 cases 1 death, diphtheria and membranous croup 4 cases, and erysipelas 11 cases 1 death.

*Hospital Accommodation.*—The three small-pox cases were removed to the Hyde Corporation hospital.

*Disinfection.*—After the occurrence of infectious disease, houses are “thoroughly disinfected.” No information given as to character of apparatus (if any).

*Water Supply.*—No information supplied.

*Sewerage, Scavenging, &c.*—Six summonses were issued against the Council by the Mersey and Irwell Joint Committee in respect of pollution of Sunnyside Brook and the River Medlock. These were heard in June, when fines were inflicted of £5 in each case—£30—and 10 guineas costs. The Court granted the defendants six months in which to commence the construction of the proposed extensions to the sewage works. Previously, fines of £50 and costs, and £20 and costs have been inflicted on the Council for similar offences. Scavenging is carried out under the supervision of the Nuisance Inspector. A refuse destructor is wanted.

*Sanitary Inspection.*—One slaughter-house was closed on account of its unsuitability. Dairies and cowsheds were visited, the latter being considerably improved in their sanitary condition. Factories and workshops came under observation, and certain defects were remedied. No statutory notices for the abatement of nuisances have been served, as the owners of property have complied with the Committee’s requirements upon their attention being called to insanitary conditions. The defects remedied were as follows:—58 drains and sink wastes cleansed or repaired, 35 privies and ashpits remodelled or improved, and 13 yards or passages paved, drained, &c. Several smoke observations were taken.

**Eccles (Borough).**—(Area in acres, 2,057 ; Estimated Population, 36,400).—*Medical Officer of Health*, W. M. HAMILTON, M.D., D.P.H. ; *Salary*, £150.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	27·7 ..	28·4 ..	26·9
Death-rate .....	14·8 ..	14·8 ..	15·8
Zymotic death-rate.....	1·70 ..	1·65 ..	2·60
Phthisis       ,, .....	1·07 ..	0·92 ..	1·25
Respiratory   ,, .....	2·39 ..	2·64 ..	2·67
Rate of deaths under 1 year to 1,000 births .....	144 ..	121 ..	152

The birth-rate, although fractionally below last year's rate, is above the average of the preceding decade. The death-rate remains exactly the same as in 1903, and is 1·0 per 1,000 of the population lower than the mean of the 10 years 1894-1903. The Ward birth-rate varied from 31·5 in Winton, to 31·2 Barton, 31·1 Irwell, 29·1 Patricroft, 22·3 Eccles, and 19·5 Monton and Park, and the death-rates were Irwell Ward 18·3, Patricroft 15·8, Eccles 14·1 Barton and Winton 14·0, and Monton and Park 13·2. The Health Committee have been occupied for some time by the problem of infantile mortality which ranged during 1904 from 195 per 1,000 registered births in Patricroft Ward, to 98 in Monton Ward. There is no doubt that improper food and methods of feeding are responsible for the greatest proportion of mortality under one year. The Health Committee decided to supply boat-shaped feeding bottles through the medium of the Lady Health Visitor, and leaflets "How infants should be fed" are handed by the Registrars to each person registering a birth. A Ladies' Health Society has also been formed to try and reduce this mortality. Whooping-cough was prevalent and caused 22 deaths ; measles contributed 4 deaths, and diarrhoea 18 deaths. The number of notifications of infectious disease (202) has shown a marked decrease as compared

with last year (411). Scarlet fever notifications, 113 with 3 deaths, were below the average for the last three years. Several cases were of so mild a type that they were not recognised until the stage of desquamation was reached. Twenty-four per cent. of the patients were isolated in hospital. Typhoid fever was responsible for 36 cases and 8 deaths. Thirty-five specimens of blood were examined bacteriologically, and in 14 cases a positive re-action was obtained. There is little doubt, says Dr. Hamilton, that "a number of the typhoid fever cases were attributable to the deposit of the excreta and urine in the privy midden attached to the house of a patient who had been ill a fortnight before being diagnosed. The disease appears to have spread to neighbouring houses through infected excreta deposited on the privy midden drying through the heat and being blown in fine dust on to food, or possibly carried by flies to food or milk." Diphtheria was less prevalent than usual, 32 cases being notified with 7 deaths. In 24 cases swabs were used for taking specimens from the throats of suspected cases—in 4 instances the diphtheria bacilli were found. Erysipelas was accredited with 19 cases, and puerperal fever 2 cases (1 fatal). Efforts have been made to procure voluntary notification of phthisis but although there were 39 deaths due to this complaint, only 18 notifications were received. During the year the following notifications were received from the various schools : measles 217, chicken-pox 100, whooping cough 315, mumps 137, eczema 160, ringworm 76, ophthalmia, sore throat, &c., 278, a total of 1,283.

*Hospital Accommodation.*—For the payment of a subsidy of £60 annually, the Salford Corporation allow the use of 20 beds at their infectious hospitals to patients from this district. Sixty-six cases were removed, viz. :—scarlet fever 28, typhoid fever 18, diphtheria 18, and erysipelas 2.

*Disinfection.*—Steam apparatus available. One school and 250 rooms were fumigated with sulphur.



*Water Supply*, excellent, obtained from the Manchester Corporation.

*Sewerage, Scavenging, &c.*—Owing to pressure by both the Local Government Board and the Mersey and Irwell Joint Committee, together with the knowledge that the Health Committee had in view the converting of the whole of the privy middens in the Borough into water-closets, at the rate of 500 conversions per annum, the Sewage Disposal Committee were obliged to consider the question of providing means for the treatment and disposal of the sewage and storm water of the Borough, other than the original scheme of sedimentation, tanks, and land filtration. A scheme was prepared at an estimated cost of £8,600, and the Local Government Board have signified their approval thereof. Full details of the proposed works are given in the report. The smoke test was applied to drains 486 times, and 155 drains were opened up for inspection. Scavenging is efficiently performed under the supervision of the Chief Sanitary Inspector.

*Sanitary Inspection.*—Bakehouses were regularly inspected; 98 visits being paid to them. Fifty-six visits of inspection were paid to the slaughter-houses, and 60 to the common lodging-houses. The cowsheds were examined on 16 occasions, and 134 visits were made to milkshops. In some cases there is considerable difficulty in persuading cow-keepers to keep the shippons properly ventilated, especially during the colder months; otherwise there is little to complain of. Only two infringements of the Canal Boats Acts were observed on the 46 boats examined. During the year every factory and workshop has been carefully inspected as regards its cleanliness, ventilation, and provision of suitable sanitary conveniences. Certain minor defects were promptly attended to upon formal complaint being made. The Chief Inspector (Mr. Laskey) reports fully upon a large amount of sanitary work accomplished, which included 2,879 inspections of



dwelling-houses, 4,082 re-inspections of nuisances in course of abatement, &c., &c. The total nuisances remedied amounted to 2,280. One hundred and thirty-seven notices were served; in 6 instances legal proceedings followed. Smoke observations numbered 29.

**Failsworth.**—(Area in acres, 1,072; Estimated Population, 14,700).—*Medical Officer of Health*. G. S. LESLIE, M.B.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	30·2 ..	28·5 ..	31·2
Death-rate .....	16·5 ..	16·4 ..	18·0
Zymotic death-rate.....	1·70 ..	2·20 ..	2·12
Phthisis „ .....	0·95 ..	0·89 ..	1·40
Respiratory „ .....	2·78 ..	2·41 ..	3·18
Rate of deaths under 1 year to 1,000 births .....	173 ..	152 ..	170

The death-rate is practically the same as last year, while the birth-rate increased 1·7 per 1,000 of the population. The infantile mortality is slightly above the average of previous years: want of cleanliness, errors in feeding, and insufficient care, largely explain this high figure. Measles was the cause of 8 deaths, compared with 17 deaths in the previous year, and diarrhoea and whooping cough contributed 10 and 5 deaths respectively, against 3 deaths each in 1903. Small-pox gave rise to 15 attacks—6 in the Higher Ward and 9 in the Lower Ward. Of these 13 were isolated in hospital, the remaining two being convalescent before discovered. Scarlet fever (14 cases) has not been so prevalent as in previous years, and typhoid fever caused only 1 case. Diphtheria contributed 7 cases (2 fatal), erysipelas 3 cases, continued fever 2 cases, and relapsing fever 1 case.

*Hospital Accommodation.*—The hospitals belonging to the Oldham Corporation are available in cases where removal is found necessary. Thirteen cases of small-pox received hospital treatment.

*Disinfection.*—No special appliances provided. Forty-eight rooms were fumigated with sulphur.

*Water Supply* is obtained from the Oldham Corporation. The water—upland in its sources—is generally of good quality and sufficient in quantity. A few cottages are supplied with Manchester water.

*Sewerage, Scavenging, &c.*—In order to meet the requirements of the Mersey and Irwell Joint Committee, a scheme has been prepared for an installation of Whittaker and Bryant's filters, and the provision of half an acre of storm filters. Sanction of the Local Government Board has been obtained for powers to borrow £15,134 for this work. The removal and disposal of house refuse is carried out by the Council with their own workmen and hired team labour.

*Sanitary Inspection.*—During the year considerable improvements have been effected in the renovation of old house property, and in the paving of streets, thus ensuring efficient drainage, and at the same time adding to the amenities of the township. Bakehouses and slaughter-houses were found satisfactory, and dairies and cowsheds "fair." There are 48 factories and 63 workshops in the district; on the whole, the sanitary conditions, including cleanliness, ventilation, &c., are fairly satisfactory. Forty canal boats were examined and no contraventions of the Acts were met with. The Inspector (Mr. Wharton) reports on 239 nuisances remedied. Smoke observations numbered 17; in 6 instances the amount of black smoke emitted exceeded 10 minutes per hour.

**Farnworth.**—(Area in acres, 1504 ;<sup>7</sup> Estimated Population, 26,000).—*Medical Officer of Health*, ALFRED KERSHAW, M.D. ; *Salary*, £40 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	27·5	29·0	30·7
Death-rate .....	19·0	18·0	19·3
Zymotic death-rate .....	4·23	2·19	2·78
Phthisis ..	1·03	0·80	1·09
Respiratory ..	3·30	2·76	3·48
Rate of deaths under 1 year to 1,000 births .....	262	211	222

The birth-rate declined 1·5 per 1,000 of the population as compared with last year, while the death-rate was increased 1·0. The zymotic rate rose 2·04, the increase being due mainly to the large number of deaths of young children from diarrhœa. The excessive infantile mortality (the highest in the County) calls for careful investigation, more than one-fourth of the children born dying before reaching the age of 1 year. For 10 successive years, the rate of deaths of infants has exceeded 200 per 1,000 births. Dr. Kershaw says, each year he has “to tell the same sad story. Young people marry at too early an age, and their offspring are often congenitally delicate and are readily carried off by any slight ailment. This, in addition to the many cases of improper feeding—by substituting for the mother’s milk articles of diet only suitable for adults—and exposure to the cold early morning or evening air, must once again be given as the cause of so many young deaths.” Diarrhœa contributed 82 deaths, whooping cough 9 deaths, and measles 2 deaths. One case of small-pox was notified; the attack took place in the workhouse, the patient not belonging to Farnworth. Scarlet fever was again prevalent, 200 cases being notified with 6 deaths, against 334 cases and 11 deaths in 1903. Eighty-seven per cent. of the persons attacked were removed to hospital. Dr. Kershaw is strongly of opinion that the

constant presence of the disease is due to many mild undiscovered cases. He believes that the large percentage of removals to hospital has been instrumental in preventing a more serious outbreak, and adds that "notwithstanding opposite opinions, I am strongly convinced that money spent on isolation of this disease is well and wisely spent." A decline in the number of typhoid fever cases is noted, 34 attacks taking place with 6 deaths, against 41 attacks 10 deaths in 1903; the decrease is attributed to the many sanitary improvements carried out, such as paving of streets and backyards, re-modelling of ashpits, &c. The remaining notifications were diphtheria and membranous croup 20 cases with 5 deaths, erysipelas 22 cases, and puerperal fever 3 cases.

*Hospital Accommodation.*—The joint hospital has again "done most useful work," the cases treated from this district amounting to 202, viz., scarlet fever 174, typhoid fever 20, and diphtheria 8. The small-pox case was treated in the Workhouse hospital. A temporary hospital for small-pox was erected some time ago, and it is now proposed to provide accommodation of a permanent character.

*Disinfection.*—Steam apparatus is available.

*Water Supply* obtained from the Bolton Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. As in 1903 the Mersey and Irwell Joint Committee on one occasion were not satisfied with the character of the effluent. The Authority carry out scavenging.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, and lodging-houses, have been under regular supervision. The latter are not what they ought to be, and a municipal lodging-house is recommended. Farms and cowsheds are in a "satisfactory condition." Factories and workshops came under observation, and certain defective conditions reported upon were

remedied. In order to secure the abatement of 1,189 nuisances, the Inspector (Mr. Marshall), in addition to numerous personal representations, served 136 preliminary or statutory notices. In 5 instances legal proceedings had to be instituted. Thirty-one smoke observations were taken.

**Fleetwood.**—(Area in aeres, 2,510 ; Estimated Population, 13,500).—*Medical Officer of Health*, W. H. ROBINSON, M.R.C.S. ; *Salary*, £80 (including £20 for the Port).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	31·4 ..	32·5 ..	31·5
Death-rate .....	14·1 ..	13·0 ..	14·4
Zymotic death-rate .....	2·59 ..	1·66 ..	1·77
Phthisis „ .....	0·59 ..	0·52 ..	0·83
Respiratory „ .....	2·22 ..	1·81 ..	2·22
Rate of deaths under 1 year to 1,000 births .....	129 ..	106 ..	137

A review of the mortality statistics will show that the annual rates as regards the deaths from all causes and from zymotic, phthisis, and respiratory diseases for the year under review are slightly higher than they were in 1903. The infant rate, although less favourable, is below the mean of the preceding decade. Of the zymotic diseases, diarrhoea and whooping cough were the most fatal, with 22 and 11 deaths respectively, while diphtheria contributed 2 deaths and typhoid fever 1 death. Fifty-five notifications were received, viz., small-pox 1, scarlet fever 5, typhoid fever 13, diphtheria and membranous croup 11, and erysipelas 25. Notices of the presence of infectious disease are sent to the day and Sunday school authorities warning them not to receive any children from infected houses, and also to the librarian, who in such cases does not lend books, and if any are out they are called in and disinfected.



*Hospital Accommodation* is provided for small-pox at Elswick, where the case above referred to was isolated, and at Moss Side (Fylde Joint) for other infectious diseases. No cases were removed to the latter hospital.

*Disinfection.* — Steam apparatus provided. Infected houses undergo sulphur fumigation.

*Water Supply* good, supplied by the Fylde Water Board.

*Sewerage, Scavenging, &c.*—Sewage is at present discharged into the harbour, but a contract has been entered into for carrying out a new sewerage scheme, having an outfall into the sea on the west side near Rossall Land Mark. Scavenging is properly carried out by the Council's men, and the refuse is destroyed at the destructor erected at the electricity works. Reference is made to certain streets which are in a very bad and wet condition and detrimental to the public health. The Council, however, have this matter in hand.

*Sanitary Inspection.*—House accommodation is good and adequate, there is sufficient open air space about the houses, which are, for the most part, kept clean. Eight cellar dwellings were condemned and closed. Bakehouses (35) are satisfactory, and two underground bakehouses have received a provisional licence. The general condition of the factories and workshops is also satisfactory. Slaughter-houses are kept clean and have had the lighting improved. Inspection of common lodging-houses is attended to, and the bye-laws for their regulation are, as far as possible, enforced. The privy and ashpit nuisance has disappeared, water closets in every case having been substituted. The Inspector (Mr. Gaulter), as the result of 969 notices, secured the abatement of 1,278 nuisances. Smoke observations are taken "frequently."

*The Port Sanitary Authority.*—The health of those arriving at the Port has continued good, and no case of infectious disease occurred. The hospital—which was last



used in 1894—has been kept in readiness for the reception of patients suffering from infectious disease. The Inspector examined 94 foreign and 43 coasting vessels. When deemed necessary verbal orders were given, and in all cases these were complied with.

**Fulwood.**—(Area in acres, 2,116; Estimated Population, excluding Public Institutions, 3,020).—*Medical Officer of Health*, JOHN GARTH, L.R.C.P.I.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·8	.. 17·3	.. 22·1
Death-rate .....	12·9	.. 13·0	.. 12·8
Zymotic death-rate .....	0·66	.. 1·33	.. 0·47
Phthisis „ .....	0·66	.. 0·33	.. 0·55
Respiratory „ .....	1·98	.. 2·33	.. 2·10
Rate of deaths under 1 year to 1,000 births .....	86	.. 76	.. 83

The population of the public institutions in this district, namely, the workhouse, barracks, orphanage, blind home, poor law school, and sisters' home, is estimated at 2,814, and as in previous years, in calculating the various averages, the deaths in these places (189 in 1904) are excluded. The birth-rate is 5·5 per 1,000 above last year's rate, while the death-rate is fractionally lower. In the early part of the year a large number of cases of measles occurred, but no death resulted. Diarrhoea and typhoid fever each caused 1 death. Small-pox gave rise to 6 cases in the district proper, and 1 in the workhouse. The first case was imported by a tramp from Fleetwood in the month of June, and was discovered in the casual ward at the workhouse. He was immediately removed to hospital, and those having been in contact with him were re-vaccinated and put under quarantine, with other stringent precautionary measures to prevent any

further outbreak. No new cases broke out until December, when the infection was introduced from the adjoining County Borough of Preston. Then a second case occurred from the same source, and gave rise to 4 others in the same house. In all cases prompt removal to hospital took place. Scarlet fever caused 9 cases and typhoid fever 4 cases.

*Hospital Accommodation.*—The joint infectious hospital is nearing completion. For small-pox, provision is made at Elswick, where the 7 cases mentioned above were isolated.

*Disinfection.*—Hot air stove provided. Houses are fumigated either with sulphur or formalin.

*Water Supply* good, obtained from Bleasdale Moors.

*Sewerage, Scavenging, &c.*—Application has been made to the Local Government Board for £7,000 for new sewers, but sanction is withheld until certain alterations at the sewage works are completed. The original apparatus for distributing sewage on filters has been taken out and replaced by improved sprinklers, and the sludge and detritus drainage is to be collected in a chamber, and further treated on land. Application has also been made to the Local Government Board for loan to provide storm water filters, &c. Scavenging is carried out by the District Council in an efficient manner.

*Sanitary Inspection.*—On inspection it was found that two bakehouses required alterations and cleansing: on drawing attention thereto, the necessary work was carried out. The only slaughter-house in the district is "kept clean," and factories and workshops on the whole comply with the provisions of the Act. Dairies and cowsheds are described as "fairly good." It was not found necessary to issue legal notice for nuisance abatement.

**Golborne.**—(Area in acres, 1,679; Estimated Population, 7,000).—*Medical Officer of Health*, JAMES DOBB, L.R.C.P.; *Salary*, £45.

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate .....	33·7 ..	34·5 ..	34·6
Death-rate .....	20·0 ..	19·0 ..	17·8
Zymotic death-rate .....	5·14 ..	3·42 ..	2·47
Phthisis ..	0·57 ..	0·42 ..	0·55
Respiratory ..	3·42 ..	4·28 ..	3·27
Rate of deaths under 1 year to 1,000 births .....	186 ..	165 ..	167

The mortality statistics for the year under review cannot be considered satisfactory. The general death-rate is 2·2 above the average of the preceding ten years, and the zymotic rate (5·14) and infant rate (186) are very high. Diarrhoea caused no less than 19 deaths, or alone equal to a rate of 2·7 per 1,000 of the population. Whooping cough contributed 7 deaths, and measles 5 deaths. The latter disease became epidemic during August and September, when it was found necessary to close four schools. Scarlet fever, although never assuming epidemic form, had an increased prevalence, 42 cases and 4 deaths occurring, against 18 cases 1 death in 1903. Typhoid fever gave rise to 4 cases 1 death, diphtheria 4 cases, and erysipelas 2 cases.

*Hospital Accommodation.*—Of the 42 cases of scarlet fever 8 were removed to the joint hospital at Astley. Owing to insufficient accommodation at the hospital the remainder were treated at home.

*Disinfection.*—No apparatus. Forty-two houses and 4 schools were fumigated with sulphur.

*Water Supply* good and ample, obtained from the Ince Urban Council reservoirs which are situate in this district.

*Sewerage, Scavenging, &c.*—"Sewage is treated in bacteria beds which are giving satisfactory results." Scavenging, undertaken by the Authority, is efficiently carried out.

*Sanitary Inspection.*—Periodical visits were paid to the bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds—on the whole these places are well conducted and kept clean. Dairies and cowsheds are not subject to regulation. Fifty inspections of factories and workshops were also made. Fifty-seven notices were served, and as a result 55 nuisances were abated.

**Gorton.**—(Area in acres, 1,147; Estimated Population, 39 000).—*Medical Officer of Health*, A. W. MARTIN, L.R.C.P., D.P.H.; *Salary*, £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	36·0 ..	34·2 ..	34·6
Death-rate .....	19·2 ..	18·9 ..	19·3
Zymotic death-rate .....	2·30 ..	2·59 ..	3·81
Phthisis ..	1·43 ..	1·47 ..	1·26
Respiratory ..	4·13 ..	3·75 ..	3·81
Rate of deaths under 1 year to 1,000 births .....	199 ..	199 ..	194

An increase in the birth-rate of 1·8 per 1,000, is accompanied by a death-rate fractionally higher, as compared with last year. The zymotic rate shows a decrease of 0·29, and is the lowest recorded since 1894, while the infantile mortality is exactly the same as last year, and approximates very closely to the mean of the preceding 10 years. The ward death-rates were as follows:—St. James' ward 19·1, Town Hall ward 18·8, and Abbey Hey ward 18·8, and the zymotic rates were 2·0, 2·5, and 2·1 respectively. Measles and whooping cough each contributed 9 deaths, and diarrhoea 40 deaths.

For many years the latter disease has produced a high death-rate, as will be seen from the following tabular statement :—

	1904.	1903.	1902.	1901.	1900.	1899.	1898.
Number of deaths	40	45	20	77	68	71	109
Death - rate per 1,000 of the population .. )	1.33	1.58	0.72	2.85	2.34	2.7	4.5

Small-pox gave rise to 13 cases, several of which were believed to have been contracted in the adjoining city. All the cases were removed to hospital and every precaution taken to prevent the disease spreading—isolation, disinfection, vaccination and re-vaccination, and all contacts kept under observation. Dr. Martin says, “the protective power of vaccination and re-vaccination has been instanced in the case of my own boy (only child), 10 years of age, who has been to the small-pox hospital frequently during the last eighteen months, and been in close contact with confluent cases of the disease, had food in the wards, and slept in the hospital without contracting the disease.” Scarlet fever was responsible for 140 cases and 5 deaths, against 132 cases 2 deaths last year, and 124 cases 8 deaths in 1902. Only 14 per cent. of the scarlet fever patients were isolated in hospital, Dr. Martin being one of the few medical gentlemen who has little faith in hospital isolation of this disease as a means of curtailing its spread. The remaining notifiable diseases occurring during the year were as follows :—typhoid fever 35 cases 5 deaths, diphtheria and membranous croup 19 cases 1 death, erysipelas 19 cases 1 death, and puerperal fever 2 cases.

*Hospital Accommodation.*—Thirteen cases of small-pox were removed to the small-pox hospital erected last year, and 32 other cases (20 scarlet fever, 11 typhoid fever, 1 diphtheria) were removed to the isolation hospitals of Stockport and Withington. These 32 patients cost £221 0s. 9d., or £6 18s. 0d. per patient.

*Disinfection.*—Steam apparatus available. Houses fumigated with sulphur number 175.

*Water Supply* good, obtained from the Manchester Corporation.

*Sewerage, Scavenging, &c.*—The Mersey and Irwell Joint Committee have had occasion to complain of unsatisfactory effluents from the sewage works, and as a result the Surveyor has prepared the necessary plans and estimates for carrying out of additional works of sewage disposal at a cost of £3,801. The Gore Brook was cleared of rubbish along its entire course in April and October, and two other streams in the district were cleansed in May and June. The task of refuse removal is undertaken by the Council, and recently a destructor has been erected at the sewage works, and will be in operation in the early part of 1905.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, and premises where offensive trades are carried on have received regular attention. Dairies and cowsheds came under constant observation. There is ample room for improvements as regards ventilation, lighting, and drainage of the shippens. Under the provisions of the Factory Act, 400 inspections have been made and very few defects were discovered. During the year 57 privy middens were altered to dry ashpits and water closets, but there are yet nearly 4,000 houses with the privy midden system ! Many owners of property hesitate to put in water closets owing to misuse on the part of the householders in disposing of bulky articles and thus causing stoppages. Several seizures were made of food unfit for human consumption. The Inspector (Mr. Cheetham) reports on the work accomplished in his department. One hundred and seven nuisances were abated as the result of 113 notices. Smoke observations numbered 71.



**Grange-over-Sands.**—(Area in acres, 1,540; Census Population, 1,993).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	8.0 ..	13.0 ..	13.5
Death-rate .....	10.5 ..	12.0 ..	10.8
Zymotic death-rate .....	nil. ..	nil. ..	0.39
Phthisis ..	1.0 ..	1.0 ..	1.68
Respiratory ..	2.50 ..	1.50 ..	1.33
Rate of deaths under 1 year to 1,000 births .....	125 ..	115 ..	85

The birth-rate is exceptionally low even for Grange, and is 5.5 per 1,000 below the mean of the preceding decennial period. The death-rate includes the deaths of 2 visitors; excluding these the rate equals 9.5. The phthisis rate is wholly accounted for by the deaths of these two visitors. For three consecutive years there has been a complete immunity from deaths attributable to the principal zymotic diseases. Measles, in April, appeared amongst the children of the National School, and spread to such an extent as to necessitate the closure of the school for a fortnight. Six cases of scarlet fever were notified.

*Hospital Accommodation.*—Nil.

*Disinfection.*—No apparatus.

*Water Supply* described as “excellent.”

*Sewerage, Scavenging, &c.*—The new sewerage scheme has been completed; all the old sewage outlets on the shore at Grange have been closed, and the sewage diverted to the new outfall near Berner's Close. Further works of sewer extension are in progress. The removal of house refuse is carried out in a satisfactory manner by the Authority.

*Sanitary Inspection.*—One house was condemned as unfit for human habitation. Bakehouses are described as “good,” and slaughter-houses “fair.” Proceedings were successfully taken for preventing the use of an unlicensed building as a slaughter-house. The other nuisances dealt with do not call for special comment. Meteorological statistics are appended.

**Great Crosby.**—(Area in acres, 1,907 ; Estimated Population, 9,142).—*Medical Officer of Health*, W. S. LIMRICK, L.R.C.P.E. ; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	19·7 ..	21·6 ..	20·7
Death-rate .....	12·4 ..	9·8 ..	10·8
Zymotic death-rate .....	2·40 ..	0·24 ..	0·80
Phthisis „ .....	0·10 ..	0·99 ..	0·73
Respiratory „ .....	1·64 ..	1·61 ..	1·98
Rate of deaths under 1 year to 1,000 births .....	143 ..	91 ..	110

The mortality statistics presented by Dr. Limrick are not so favourable as those of 1903. The general death-rate is increased 2·6, and the zymotic rate 2·16, whilst the infantile mortality is 143 against 91. During the last three months of the year measles caused some trouble, and resulted in the closing of two schools. Altogether 9 deaths were due to measles, 8 to whooping cough, and 4 to diarrhoea. Thirty-nine notifications were received, viz., scarlet fever 20, typhoid fever 4, diphtheria and membranous eroup 8, and erysipelas 7.

*Hospital Accommodation.*—Ten patients—7 scarlet fever, 1 typhoid fever, and 2 diphtheria—were removed to the Bootle Corporation hospital. An annual contribution of £171 is paid for maintenance, and the patients expenses amounted to £86 17s. 10d.

*Disinfection.*—The “gas stove” was used 28 times, and 368 articles were disinfected. Rooms fumigated numbered 71.

*Water Supply* sufficient, wholesome, and constant, obtained from Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the estuary of the river Mersey. Drains of 341 premises were tested resulting in the discovery of many defects. Special attention was paid to the drains of the schools which were closed on account of the presence of infectious disease, and daily flushing and disinfecting were recommended. Removal of house refuse is carried out by contract, but under the supervision of the Sanitary Inspector.

*Sanitary Inspection.*—One house was closed as unfit for habitation; one house, condemned last year, was permitted to be occupied after certain amendments and improvements had been carried out. There are no slaughter-houses or lodging-houses in the district. Bakehouses—6 in number—were examined; three underground were condemned and closed. Two of the latter premises have been so altered and amended as to comply with the requirements of the Factory Act. Dairies and cowsheds are kept “in excellent order,” the regulations being strictly enforced; one new dairy has been built during the year, making 18 dairy premises in the district. Factories and workshops (12) have been frequently visited, and sanitary amendments, where necessary, enforced. Forty-six privy middens were abolished, and water closets substituted. The Inspector served 114 notices for the abatement of nuisances; in one instance legal proceedings had to be instituted before the necessary work was accomplished. Statistics as to rainfall, &c., are appended to the report. At the request of the Local Government Board, Dr. Limrick prepared a supplemental report giving further details as to the sanitary work carried out during the year.

**Great Harwood.**—(Area in acres, 2,868 ; Estimated Population, 13,000).—*Medical Officer of Health.* JOHN PATCHETT, L.R.C.P.E. ; *Salary,* £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·4 ..	25·8 ..	27·4
Death-rate .....	14·6 ..	12·6 ..	14·2
Zymotic death-rate .....	1·92 ..	1·12 ..	1·47
Plithisis „ .....	1·23 ..	0·80 ..	0·86
Respiratory „ .....	2·61 ..	2·32 ..	2·48
Rate of deaths under 1 year to 1,000 births .....	167 ..	102 ..	140

As compared with the previous year the birth-rate shows a decrease of 3·4 per 1,000 of the population, and is the lowest recorded, while the death-rate is increased 2·0. The zymotic and infant rates are also less favourable. The increase in the death-rate is due partly to the epidemic of measles which prevailed at the commencement of the year and caused 17 deaths. In coping with the outbreak school closure was adopted. Whooping cough gave rise to 5 deaths and diarrhoea 2 deaths. Scarlet fever was responsible for 82 cases, but no death resulted from this cause. Typhoid fever contributed 14 cases (1 fatal), diphtheria 2 cases, and erysipelas 10 cases.

*Hospital Accommodation.*—Nil.

*Disinfection.*—No proper apparatus. Houses are fumigated with formalin.

*Water Supply* good, obtained from the Dean Clough reservoir belonging to the Accrington and District Water Board.

*Sewerage, Scavenging, &c.*—Sewage is treated at the Clayton-le Moors and Great Harwood joint works. The laying out and under-draining of 10 acres additional land,

commenced in July, 1903, has been completed and brought into operation, and three storm water beds have been constructed. Several old and defective sewers have been relaid, and a number of inspection chambers to the sewers provided. Seavenging has been satisfactorily performed by the Council's employees.

*Sanitary Inspection.*—The mills, workshops, slaughter-houses, bakehouses, and laundries were inspected and found in a fairly satisfactory condition. Dairies and cowsheds also came under observation—some gave satisfaction but others do not conform to the regulations. The various schools in the district have been carefully examined with regard to ventilation and sanitary condition of their outbuildings, playgrounds, &c. Defects have been pointed out, and improvements recommended where necessary. During the year a disused slaughter-house has been transformed into a public mortuary, equipped with every convenience. Notices served amounted to 32, and nuisances remedied 94. Eight smoke observations were taken.

**Haslingden (Borough).**—(Area in acres, 8,196 : Estimated Population, 18,743).—*Medical Officer of Health*, J. A. HARRISON, M.D. : *Salary*, £50.

Per 1,000 of Population.	1901.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	19.5 ..	22.9 ..	23.5
Death-rate .....	14.0 ..	15.8 ..	16.0
Zymotic death-rate .....	1.81 ..	1.06 ..	1.85
Phthisis ..	0.69 ..	0.74 ..	0.95
Respiratory ..	2.40 ..	3.36 ..	3.14
Rate of deaths under 1 year to 1,000 births .....	147 ..	153 ..	164

The birth-rate is the lowest recorded during the last 10 years, and the same may be said of the death-rate, excepting

1901, when it was exactly the same. The zymotic rate and infant rate are also below the 10 years' average. The birth-rate varied from 25·6 in Grane Ward to 21·6 Town Ward, 21·2 Helmshore Ward, 20·6 Acre Ward, 17·8 Holden Ward, and 16·1 Syke Ward, whilst Town Ward had the highest death-rate, viz., 19·4, followed by Helmshore Ward 16·0, Syke Ward 14·8, Acre Ward 12·7, Grane Ward 11·8, and Holden Ward 11·0. Measles—the cause of 7 deaths—was somewhat prevalent and necessitated closure of several schools. Whooping cough contributed 10 deaths, and diarrhœa 5 deaths. In December, a very mild case of small-pox was notified from Town Ward; prompt removal to hospital took place, and no further spread occurred. Scarlet fever gave rise to 65 cases 4 deaths. The attack was most marked in Helmshore Ward, where over 70 per cent. of the cases occurred. A school was closed on account of the prevalence of this disease amongst the scholars. Typhoid fever was accredited with 10 cases 2 deaths, diphtheria and membranous croup 22 cases 3 deaths, erysipelas 38 cases 4 deaths, and puerperal fever 1 case.

*Hospital Accommodation.*—The temporary small-pox hospital at Copy Farm was used for the isolation of the case previously mentioned. No steps have been taken to erect the small-pox hospital for which the sanction of the Local Government Board has been obtained, and no provision whatever is available for the treatment of ordinary infectious cases.

*Disinfection.*—Steam apparatus provided. House fumigations numbered 54.

*Water Supply.*—No complaints were made as to the character of the water supplied by the Joint Board.

*Sewerage, Scavenging, &c.*—Sewage is dealt with at the joint outfall works at Ewood Bridge. The Mersey and



Irwell Joint Committee have had occasion to complain of unsatisfactory effluents, and in consequence, the works are being extended, but the Chief Inspector reports that progress in constructing the new bacteria beds has been extremely slow. Scavenging is performed by the Corporation employees. The refuse destructor has not yet materialised, and a difficulty is experienced in disposing of the refuse.

*Sanitary Inspection.*—Slaughter-houses, although old, have been kept in fairly good condition. “A public abattoir would be a great boon to the Borough.” Bakehouses and lodging-houses are well kept, and dairies and cowsheds are “fairly good.” The latter, unfortunately, are not subject to regulations. As a result of the inspection of factories and workshops 24 defects were discovered. The Inspector (Mr. Hoyle) reports that 75 pail closets were altered to the waste-water system, and 8 privy middens were also converted. Notices served for nuisance abatement numbered 139.

**Haydock.**—(Area in acres, 2,411; Estimated Population, 9,500).—*Medical Officer of Health*, T. E. HAYWARD, M.B. (Lond.); *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	39·5 ..	43·7 ..	39·1
Death-rate .....	18·1 ..	14·3 ..	16·8
Zymotic death-rate .....	3·57 ..	3·07 ..	3·31
Phthisis „ .....	0·42 ..	0·65 ..	0·90
Respiratory „ .....	4·31 ..	2·19 ..	2·53
Rate of deaths under 1 year to 1,000 births .....	159 ..	97 ..	159

The birth-rate, although 4·2 per 1,000 of the population less than the very high rate of the previous year, is still considerably above the County average. The death-rate shows an increase equal to 3·8 per 1,000, and the infantile mortality is much in

excess of the exceptionally favourable figure for 1903. Measles prevailed extensively as an epidemic during March and April, chiefly affecting West Ward; 9 deaths resulted from this disease. Two schools were closed for a period of three weeks. Dr. Hayward recommends his Council to consider the desirability of offering to medical practitioners the usual fee for the *voluntary* notification of the *first* case of measles in a house. Diarrhoea, with 14 deaths, again had a high rate (1.47 per 1 000), and contributed largely to the excessive zymotic rate. Whooping cough contributed 3 deaths. Scarlet fever prevailed during the whole year, but only 68 cases were notified as against 98 for the previous year; the disease, however, accounted for 4 deaths as compared with 2 deaths in 1903. Typhoid fever was responsible for 11 cases 3 deaths, diphtheria and membranous croup 11 cases 1 death, erysipelas 12 cases, puerperal fever 1 case, and chicken-pox—notifiable during the first four months of the year—29 cases.

*Hospital Accommodation.*—Thirty-one cases were removed to the St. Helens Borough Sanatorium, viz., 24 scarlet fever and 7 typhoid fever.

*Disinfection.*—By arrangement the steam apparatus at St. Helens is used for bedding, clothing, &c. Fifty-six rooms were fumigated with sulphur.

*Water Supply.*—With the exception of a few outlying houses, the whole district has a constant supply of pure water, derived from the Rivington reservoirs, belonging to the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—The question of drainage is one which demands “anxious consideration.” A Sub-Committee has been appointed to devise a suitable main drainage scheme with adequate arrangements for purifying the sewage.

The drains of 44 houses were tested with smoke, 8 of which proved defective. Scavenging is performed satisfactorily by the Authority.

*Sanitary Inspection.*—Eight cases of overcrowding were dealt with. Bakehouses, slaughter-houses, and dairies and cowsheds have been periodically inspected and found clean. The workshops have also been examined, 31 visits being made to the various premises, which, generally, were found in good sanitary condition. The Inspector (Mr. Dickinson) served 83 notices for nuisance abatement.

**Heaton Norris.**—(Area in acres, 1,619; Estimated Population, 10,497).—*Medical Officer of Health*, F. W. JORDAN, M.D., D.P.H.; *Salary*. £60 (no claim).

Per 1,000 of Population.	1904.		1903.		Mean of 10 years, 1894-1903
Birth-rate .....	16·2	..	15·4	..	16·2
Death-rate .....	10·2	..	10·0	..	10·8
Zymotic death-rate .....	0·85	..	0·71	..	0·79
Phthisis „ .....	0·19	..	0·40	..	0·76
Respiratory „ .....	1·90	..	1·42	..	1·92
Rate of deaths under 1 year to 1,000 births .....	122	..	157	..	121

The mortality statistics presented by Dr. Jordan are again of a favourable character, the general death-rate being only 10·2 per 1,000 of the population. The birth-rate is low, but equals the mean of the preceding decade. In February and March, measles prevailed in epidemic form, but fortunately only 3 deaths resulted. School closure was resorted to in order to stem the course of the epidemic. Five deaths were ascribed to diarrhoea, and 1 death to whooping cough. In June, small-pox made its appearance, and 5 cases were notified. There were three outbreaks unconnected with each other;

in two instances the infection originated probably in Stockport. Scarlet fever of a mild character, gave rise to 21 cases, typhoid fever 2 cases, diphtheria and membranous croup 4 cases, erysipelas 3 cases, and puerperal fever 1 case. During the year increased advantage was taken by medical practitioners of the arrangements with the pathological laboratory of Manchester for the examination of disease products.

*Hospital Accommodation.*—Four cases of small-pox were removed to the Manchester hospital, and 5 cases of scarlet fever to the Salford hospital.

*Disinfection.*—Seventy-eight rooms were disinfected by means of formaldehyde, the walls being sprayed.

*Water Supply* is obtained from Manchester and Stockport; complaints are made occasionally as to the turbidity of the water.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. On one occasion (October) the Mersey and Irwell Joint Committee drew attention to an unsatisfactory effluent. A nuisance arises from the sewer manholes and at times the street gullies are offensive. Many house drains were tested with the smoke machine, and where defects were discovered, the drains were reconstructed to the satisfaction of the Nuisance Inspector. The Authority undertake scavenging, refuse being “tipped.”

*Sanitary Inspection.*—Bakehouses and slaughter-houses were inspected and found to be quite satisfactory. Dairies and cowsheds are “fair.” At one farm the water, obtained from three sources, was found to be unfit for use. Twenty visits to factories and workshops revealed 5 defects. Fifteen privies were converted to the water-carriage system, and 16 others were improved. The Inspector (Mr. Banks) gives details of the sanitary work carried out. Thirty-eight nuisances were abated, but only 7 notices were required. A “few” smoke observations were taken.

**Heysham.**—(Area in acres, 1,835 ; Census Population, 3,381).

—*Medical Officer of Health*, R. B. GASS, M.B., C.M., to May, 1904 ; from that date, RICHARD HERD, B.A., B.C. ; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 5 years, 1899-1903.
Birth-rate .....	17·7 ..	17·1 ..	21·7
Death-rate .....	13·3 ..	13·9 ..	12·5
Zymotic death-rate .....	0·88 ..	0·88 ..	0·90
Phthisis „ .....	0·59 ..	nil. ..	0·75
Respiratory „ .....	1·18 ..	2·07 ..	1·14
Rate of deaths under 1 year to 1,000 births .....	216 ..	120 ..	113

The report for the first five months of the year is supplied by Dr. Gass, and for the remainder of the year by Dr. Herd. With the exception of the infantile mortality—which is very high—the averages are very similar to those of the preceding twelve months. There was a serious outbreak of measles which necessitated the closing of the Sandylands schools for a period of three weeks. Fortunately the disease was of a mild type and no death resulted. A certain amount of whooping cough was present in the summer months, but only 1 death resulted. Diarrhœa also was responsible for one fatality. Seventeen notifications were received, viz., scarlet fever 14, typhoid fever 2 (1 fatal), and diphtheria 1. The Council have made arrangements for bacteriological examinations in doubtful cases of diphtheria, typhoid fever, &c.

*Hospital Accommodation.*—A small hospital has been provided, and, during the year 8 cases of scarlet fever were treated there. Some of the inhabitants have objected to the removal of their children to hospital on account of having to pay towards their maintenance, and Dr. Herd says, “I think if it were made free for all residents the hospital would be looked upon with much more favour.” The accommodation however, is insufficient to cope with any serious outbreak.

*Disinfection.*—Occasionally the steam apparatus of the Lancaster Corporation is used for bedding and clothing. Houses are fumigated either with sulphur or formalin.

*Water Supply.*—There is a plentiful supply of good water obtained from Lancaster, but a few of the houses in Lower Heysham are still using pump water.

*Sewerage, Scavenging, &c.*—Sewage is conveyed by iron pipes into the sea; the scavenging said to be carried out efficiently by the Authority.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are in good order, and the workshops appear to be in good sanitary condition. Dairy and cowshed regulations have not been adopted, and little attention seems to be given to these places. It was not found necessary to serve any notices for the abatement of nuisances. One smoke observation was taken.

**Heywood (Borough).**—(Area in acres, 3,660; Estimated Population, 26,143).—*Medical Officer of Health.* H. H. I. HITCHON, M.R.C.S.; *Salary,* £100.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years. 1894-1903.
Birth-rate .....	21·4	..	24·4	..	23·9
Death-rate .....	19·8	..	17·5	..	18·7
Zymotic death-rate .....	3·06	..	1·08	..	1·97
Phthisis „ .....	1·53	..	1·81	..	2·01
Respiratory „ .....	3·71	..	3·97	..	4·08
Rate of deaths under 1 year to 1,000 births .....	215	..	126	..	171

The mortality statistics presented by Dr. Hitchon do not compare favourably with last year, or with the mean of the preceding decade. As compared with 1903 the death-rate shows an increase of 2·3 per 1,000, the zymotic rate rose 1·98,



and the infantile mortality was 215 as against 126. The latter increase is due mainly to the high mortality amongst infants from whooping cough, measles, and diarrhœa. Further, Dr. Hitchon, reports "the neglect of mothers to rear their offspring naturally contributes very largely to the enormous loss of life during infancy." Sixty per cent. of the children under one year of age who sneumbed during 1904 were "bottle-fed." "The preference that married women have for millwork, rather than performing the very necessary but rather less interesting and more common place work in their homes, leads them to neglect the duty they owe their young." A very serious epidemic of measles occurred during the first half of the year, and it developed throughout the town very quickly. The disease was spread by means of school contact, and also by house-to-house infection. It affected chiefly very young children, especially those attending infants' schools. School closure was resorted to upon a large scale, and the closure did much to lessen the epidemic. Altogether 23 deaths were due to measles. Whooping cough of a severe type was very prevalent during the earlier months of the year, and in this case school infection was the chief means by which the disease was propagated. Twenty deaths took place, all in children under 5 years of age. Diarrhœa contributed 27 deaths, 26 of which occurred in children aged 2 years or under. Small-pox gave rise to 10 cases 1 death. Half of the cases occurred at a common lodging-house. After the occurrence of the first case at the lodging-house the inmates refused re-vaccination unless a small allowance was granted them; and this the Health Committee refused. All the cases were isolated in hospital. Scarlet fever—101 cases 3 deaths—was widely distributed throughout the Borough. Typhoid fever was the cause of 7 cases, diphtheria 29 cases 6 deaths, erysipelas 10 cases 1 death, and puerperal fever 4 cases 1 death. No hospital provision is available for diseases other than small-pox, and no doubt the spread of the diseases above mentioned

was considerably assisted by the carelessness and ignorance displayed by parents in their crude attempts at home isolation. Considerable advantage has been taken of the arrangements made for bacteriological examinations.

*Hospital Accommodation.*—The small-pox hospital at Birtle contains 12 beds, and the temporary pavilion erected last year also has 12 beds. The 10 cases of small-pox were isolated. As already stated, there is no provision whatever for the isolation of other infectious diseases.

*Disinfection.*—The provision of a steam disinfector at the refuse destructor works or at some other more central position is recommended to replace the present undesirable method of taking all infected clothing to the disinfector at the small-pox hospital. Rooms fumigated with sulphur numbered 203.

*Water Supply* good, obtained from the Heywood and Middleton Joint Board.

*Sewerage, Scavenging, &c.*—Considerable extensions are now in progress at the sewage works. The Corporation carry out scavenging in a satisfactory manner, refuse being taken to the destructor.

*Sanitary Inspection.*—Eight houses were voluntarily closed during the year. Bakehouses (32) and underground bakehouses (4) are described as “good.” Slaughter-houses (17) are also in fair condition, cleansing and limewashing being carried out satisfactorily. The erection of a public abattoir is, however, recommended. The condition of the three common lodging-houses is good, and as regards cleanliness very satisfactory. Shippens and dairies are fairly well kept, and factories and workshops on the whole comply with the requirements. Forty-two canal boats examined revealed only one contravention of the Act. During the

year 175 privies were abolished, the water-carriage system being substituted, and 12 pail closets were also converted. The Inspector (Mr. Robinson) gives details of the sanitary work accomplished, which included 977 nuisances abated, 832 notices served, 34 smoke observations, &c. In dealing with the smoke nuisance it was found necessary in two instances to institute legal proceedings.

**Hindley.**—(Area in acres, 2,612; Estimated Population, 25,054.)—*Medical Officer of Health*, JAMES CHRONNELL, M.R.C.S.; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	32·0	.. 35·7	.. 38·5
Death-rate .....	19·6	.. 18·8	.. 20·6
Zymotic death-rate .....	3·55	.. 2·47	.. 3·77
Phthisis „ .....	0·47	.. 0·68	.. 0·71
Respiratory „ .....	4·43	.. 3·32	.. 4·58
Rate of deaths under 1 year to 1,000 births .....	184	.. 174	.. 189

The birth-rate is the lowest recorded for the district, and 6·5 per 1,000 below the mean of the preceding decade. The general death-rate is above last year's average, and the zymotic, respiratory, and infant rates are also less favourable. Dr. Chronnell reports that “improper feeding and lack of cleanliness in the home contribute to the latter rate.” Measles, the cause of 27 deaths, has been present throughout the year, and on several occasions school closure was resorted to. Whooping cough also had a wide spread, causing no less than 35 fatalities, and 15 deaths were due to diarrhoea. Scarlet fever again prevailed the whole of the year with varying intensity in the wards; altogether 137 cases were notified, and 6 deaths resulted. Typhoid fever gave rise to 26 cases 6 deaths. In one case the disease appeared 12 days

after the patient had eaten cockles. Diphtheria, associated with membranous croup, contributed 23 cases, erysipelas 24 cases, and puerperal and continued fevers 1 case each.

*Hospital Accommodation.*—A small temporary hospital—8 beds—at Sandy Lane is available for small-pox. Hindley forms one of the many districts associated under the County Council Order for the provision of a joint small-pox hospital. There is no provision for the ordinary infectious cases, but the Council, in May, 1905, obtained possession of a small farm which they have purchased, with a view to the erection of an isolation hospital.

*Disinfection.*—The steam disinfector has been in constant use, 1,295 articles passing through it. Ten schools and 160 houses have been fumigated with sulphur.

*Water Supply* good and abundant, obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Borrowing powers have been obtained for enlarging the sewage works. The present treatment is chemical precipitation and land filtration. The Authority efficiently carry out scavenging.

*Sanitary Inspection.*—Four houses unfit for human habitation were condemned and closed, afterwards being reconstructed. Bakehouses are described as “very good,” and slaughter-houses as “clean.” Dairies and cowsheds are not subject to regulations. During the year 260 visits were paid to the factories and workshops, of which there are 157, and the improvement mentioned last year has been maintained. Over 1,400 pounds of meat unfit for human consumption were destroyed. The Inspector (Mr. Southern) served 272 preliminary and 46 legal notices for the abatement of nuisances.

**Horwich.**—(Area in acres, 3,257; Estimated Population, 15,873.)—*Medical Officer of Health*, G. H. WHITTAKER, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	29·2 ..	31·7 ..	33·9
Death-rate .....	13·6 ..	15·4 ..	15·1
Zymotic death-rate .....	1·32 ..	1·08 ..	2·01
Phthisis           ,, .....	0·63 ..	0·96 ..	0·58
Respiratory       ,, .....	2·33 ..	3·39 ..	3·18
Rate of deaths under 1 year to 1,000 births .....	122 ..	127 ..	147

As compared with 1903 the birth and death rates are reduced 2·5 and 1·8 per 1,000 of the population respectively, the former rate being the lowest recorded during the last 10 years. The infant rate is also lower than for many years, excepting 1902, when it was 96. Measles—the cause of 7 deaths—became extensively prevalent in September and October, necessitating the closing of one school for a period of three weeks. The epidemic recurred in December, when another school was closed. Whooping cough was accredited with 3 deaths. Scarlet fever, with 80 cases 7 deaths, showed a decreased prevalence, the number of cases last year being 116 with 6 deaths, and in 1902, 157 cases and 5 deaths. Typhoid fever caused 11 cases 1 death, diphtheria and membranous croup 30 cases 3 deaths, erysipelas 16 cases, and puerperal and continued fevers 1 case each.

*Hospital Accommodation.*—The joint hospital at Fall Birch provided jointly by Horwich, Westhoughton and Blackrod is nearing completion. The buildings are designed to accommodate 38 patients. A temporary small-pox hospital is provided at Red Moss, and this district is one of the constituent authorities under the Wigan and District Small-pox Hospital Order.



*Disinfection.*—Steam apparatus is available. Houses are fumigated either with sulphur or formalin.

*Water Supply* obtained from Mont Cliff, Wildersmoor, and Blackrod, and a new reservoir at Marklands is in course of construction. The owners of property in some of the outlying districts have been advised to lay on town's water to replace water of doubtful purity.

*Sewerage, Scavenging, &c.*—An inquiry was held some time ago by the Local Government Board in regard to an application to borrow £12,000 for sewage works improvements and extensions. As the scheme did not provide for land treatment the Board withheld their consent. Since then the Board have satisfied themselves that the land on the sewage farm is unsuitable for sewage treatment, and have decided to accept a scheme dependent upon artificial filtration; the local engineer has been directed to prepare plans and estimates accordingly. The Authority carry out the scavenging in a satisfactory manner.

*Sanitary Inspection.*—Careful inspection of a large number of houses again brought to light a number of nuisances, such as overcrowded, dirty, and dilapidated habitations. Bakehouses—periodically inspected—were found satisfactory, with the exception of one underground, which was closed. Slaughter-houses (4) are kept clean. At the common lodging-houses (3) considerable improvements have been made in the shape of ventilation and the provision of water closets. The sanitary condition of dairies and cowsheds has been improved, more attention being paid to cleanliness, limewashing, &c. Visits to factories and workshops amounted to 231, and 19 defects came under notice. One hundred and two new water-closets were constructed to replace privies and for additional accommodation. The Inspector secured the abatement of 280 nuisances after the service of 277 notices. In one instance legal proceedings were successfully instituted. The chimneys of the district are kept under observation.



**Hurst.**—(Area in acres, 638 ; Estimated Population, 7,300.)  
 —*Medical Officer of Health*, T. COOKE, M.R.C.S. ; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 8 years, 1896-1903.
Birth-rate .....	26·1 ..	24·9 ..	28·6
Death-rate .....	17·5 ..	17·7 ..	18·9
Zymotic death-rate .....	1·23 ..	2·65 ..	2·05
Phthisis „ .....	1·23 ..	1·11 ..	1·40
Respiratory „ .....	3·56 ..	2·37 ..	3·78
Rate of deaths under 1 year to 1,000 births .....	194 ..	157 ..	185

The birth-rate shows an increase of 1·2 per 1,000 on last year's average, whilst the death-rate is fractionally decreased. The zymotic rate is reduced one half, but the infantile mortality rose from 157 to 194. No deaths were ascribed to whooping cough or diarrhœa, but measles contributed 2 deaths. Small-pox gave rise to 22 cases and 2 deaths. Hospital isolation was promptly carried out in each case. In addition, another case was reported, but after removal to hospital proved to be chicken-pox. The other notifications were scarlet fever 65 with 4 deaths, and typhoid fever 3 cases with 1 death.

*Hospital Accommodation.*—The 22 cases of small-pox were removed to the Ashton-under-Lyne hospital. A small-pox hospital, jointly with several neighbouring Authorities, is being erected.

*Disinfection.*—No apparatus. Sulphur fumigation relied upon.

*Water Supply* obtained from the joint waterworks.

*Sewerage, Scavenging, &c.*—The sewers are connected to the Ashton-under-Lyne system. Scavenging is said to be satisfactorily carried out by the Authority.

*Sanitary Inspection.* — Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds are regularly visited, and on the whole give satisfaction. Thirty-six visits were paid to factories and workshops, 9 defects being discovered. The open wet ashpits and closets are steadily being dispensed with, and the water-carriage system substituted. Details of the Inspector's work are again wanting.

**Huyton-with-Roby.**—(Area in acres, 3,053; Census Population, 4,661.)—*Medical Officer of Health*, EGERTON F. HALL M.D.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·7 ..	25·9 ..	28·1
Death-rate .....	10·9 ..	12·4 ..	13·1
Zymotic death-rate.....	nil. ..	0·85 ..	1·17
Phthisis „ .....	0·64 ..	0·64 ..	0·68
Respiratory „ .....	2·36 ..	1·71 ..	2·47
Rate of deaths under 1 year to 1,000 births .....	83 ..	82 ..	117

The mortality statistics are again of a satisfactory character, and the health of the district generally during the year under review has been very good. Not a single death took place from the principal zymotic diseases, and only 16 notifications were received, the lowest number recorded since 1896. Scarlet fever and diphtheria each contributed 7 cases, and typhoid fever and erysipelas 1 case each.

*Hospital Accommodation.*—One bed is reserved at the Whiston Sanatorium for the use of this district, and 5 cases were removed, viz., 4 scarlet fever and 1 diphtheria.

*Disinfection.*—Steam apparatus at the hospital is available.

*Water Supply* obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated by irrigation, and scavenging is carried out satisfactorily by the Council's employees.

*Sanitary Inspection.*—Bakehouses, 3 in number, of which one is underground, are "satisfactory," and dairies and cowsheds are well kept. Two systematic inspections of the factories and workshops were carried out. Notices served amounted to 14, nuisances remedied 13, smoke observations 20.

**Ince-in-Makerfield.**—(Area in acres, 2,320; Estimated Population, 22,450.)—*Medical Officer of Health*, J. H. FLETCHER, M.R.C.S.; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	36·7	.. 41·5	.. 40·3
Death-rate .....	20·6	.. 21·8	.. 22·0
Zymotic death-rate .....	3·51	.. 4·87	.. 3·57
Phthisis       ,, .....	0·62	.. 0·50	.. 0·53
Respiratory   ,, .....	5·70	.. 5·15	.. 5·06
Rate of deaths under 1 year to 1,000 births .....	226	.. 180	.. 204

As compared with 1903 the birth-rate declined 4·8 per 1,000 of the population, and the general death-rate was reduced 1·2. The zymotic rate, although below last year's average, is still high; and the rate of deaths under one year is excessive. The chief causes of the heavy infantile mortality are (a) diseases of the digestive organs brought about by improper feeding, (b) weakness from birth and marasmus, (c) premature birth, and (d) diseases of the respiratory organs. Sheer poverty is, however, at the bottom of many cases of apparent neglect and improper feeding of young infants. Diarrhœa caused 49 deaths, alone equal to a rate of 2·18 per 1,000 of the population. Whooping cough—prevalent in

the Central Ward at the beginning of the year—contributed 11 deaths, and measles gave rise to 6 deaths. On account of the prevalence of the latter disease school closure was resorted to. There was a satisfactory decline in the number of scarlet fever notifications, viz., 102 with 9 deaths, as compared with 210 cases 9 deaths last year, and 178 cases 9 deaths in 1902. Typhoid fever gave rise to 18 cases 2 deaths, the same number of deaths and cases being attributed to diphtheria and membranous croup. Erysipelas was the cause of 23 cases; Dr. Fletcher reports that he “fails to see any adequate benefit obtained by the notification of this disease.” Puerperal and continued fevers each caused 1 case.

*Hospital Accommodation.*—The hospital consists of two wards with 12 beds each. Thirty-five cases were removed—33 scarlet fever and 2 typhoid fever. This district is included in a joint scheme for the provision of small-pox hospital accommodation.

*Disinfection.*—Steam apparatus at the hospital is available.

*Water Supply* is obtained partly from the Council's deep wells at Golborne and partly from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—In June last, the Chief Inspector of the Ribble Joint Committee reported that “the condition of the sewage works calls for a general complaint. At regular intervals unsatisfactory samples are obtained.” Since that time some improvement at the existing works has been carried out, and a new scheme is under the consideration of the Council. It may be mentioned that mining subsidences are a constant source of trouble by causing fractures in the pipe lines. Scavenging carried out by the Council's workmen has not been “as satisfactory as could be wished.” the side streets especially being at times somewhat neglected. More efficient supervision of the men employed has been

decided upon. Many backyards are still unpaved, and in bad weather the surfaces become foul, and a danger to the children playing about.

*Sanitary Inspection.*—Special reports have been presented regarding the house accommodation in Broom Street. As a result, 18 back-to-back houses have been converted into through houses, and other improvements effected. Bake-houses, slaughter-houses, lodging-houses, dairies and cow-sheds, and factories and workshops, all receive constant attention, and on the whole are clean and free from nuisance. Nuisances abated amounted to 239, but only 36 notices were required.

**Irlam.**—(Area in acres, 4,620 ; Estimated Population, 4,700).  
—*Medical Officer of Health*, EDWIN O. JAGO, M.R.C.S. :  
*Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate .....	30·6 ..	34·0 ..	29·0
Death-rate .....	18·5 ..	13·4 ..	13·3
Zymotic death-rate .....	4·04 ..	0·63 ..	2·16
Phthisis „ .....	1·06 ..	0·42 ..	0·61
Respiratory „ .....	2·55 ..	1·91 ..	1·93
Rate of deaths under 1 year to 1,000 births .....	90 ..	100 ..	125

As compared with last year, the birth-rate shows a reduction of 3·4 per 1,000 of the population, but the death-rate rose 5·1, and was the highest recorded for the district. The zymotic rate showed an increase of 3·41, and was also above any previously recorded rate. It is, however, pleasing to note that the infant rate is well below the average of previous years. Diarrhoea contributed 10 deaths against 2 in 1903, and whooping cough and measles each caused 3 deaths,

against none in the previous year. The latter disease was somewhat prevalent in November and December; to cope with the outbreak school closure was resorted to. Scarlet fever was accredited with 30 cases 1 death, diphtheria and membranous croup 4 cases 2 deaths, and erysipelas 9 cases.

*Hospital Accommodation.*—A temporary hospital—4 beds—is provided for small-pox, but there is no accommodation for ordinary infectious cases.

*Disinfection.*—Houses are fumigated with formaldehyde.

*Water Supply* good and abundant, obtained from Manchester.

*Sewerage, Scavenging, &c.*—Sewage is dealt with by intermittent filtration through osier beds. During the year some difficulty has been experienced in coping with the sewage delivered on the farm. The five acres, utilised at the present time for filtration purposes, appear to have been “over-dosed,” and consequently percolation has been very slow. In the hope of increasing the rate of filtration the whole of the low-lying land was turned over to a depth of twelve inches, but this does not seem to have had the desired effect. In the near future some other steps will have to be taken to deal with the ever-increasing volume of sewage. Scavenging, as carried out by contract, gives satisfaction.

*Sanitary Inspection.* — Bakehouses, slaughter-houses, lodging-houses, dairies and cowsheds, are all periodically inspected, and on the whole are well kept. Factories and workshops also were inspected and found to fulfil the requirements of the Act in regard to cleanliness, air space, ventilation, drainage, and general sanitation. The Inspector (Mr. Kay) served 8 notices for the abatement of a like number of nuisances. “Frequent” smoke observations are taken.



**Kearsley.**—(Area in acres, 1,005; Estimated Population, 9,500).—*Medical Officer of Health*, J. C. EAMES, M.D.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·0	.. 32·0	.. 30·5
Death-rate .....	18·0	.. 19·1	.. 17·0
Zymotic death-rate .....	3·15	.. 3·19	.. 2·37
Phthisis „ .....	0·73	.. 1·38	.. 1·13
Respiratory „ .....	3·05	.. 2·76	.. 3·01
Rate of deaths under 1 year to 1,000 births .....	229	.. 192	.. 179

The birth and death rates show reductions of 5·0 and 1·1 per 1,000 respectively, as compared with last year, but the latter rate is still well above the average of the County urban districts. Dr. Eames, in explanation of the unusually high infant mortality, reiterates the complaint that women remain at work in the mills too near their confinement to bear healthy children, and afterwards return too soon, thus leaving the young infant to be artificially fed. Other well-known causes influence largely infantile deaths, and it would be well to bear these in mind with a view to minimising them. Diarrhœa caused 13 deaths—12 under the age of 1 year—and whooping cough contributed 8 deaths. Scarlet fever had an increased prevalence, 90 cases being notified with 2 deaths, against 55 cases 3 deaths in the previous year. Eighty-six per cent. of the attacks took place in the first half of the year. Dr. Eames states, “the expense of sending scarlet fever cases to hospital was becoming so great, and the results appeared so unsatisfactory, that in June he was requested to make enquiries and prepare a special report on the subject. As a result, none have been sent since, and so far we have certainly no reason to regret the change. This is no doubt hard in some cases, but the hospital treatment has been proved quite incapable of stamping out the disease, and

it is an open question as to whether it even diminished the number.” It would be interesting to know what alternative is offered for reducing the excessive zymotic mortality. The other infectious diseases were typhoid fever 5 cases, diphtheria and membranous croup 17 cases 7 deaths, erysipelas 5 cases, puerperal fever 2 cases (both fatal), and continued fever 1 case.

*Hospital Accommodation.*—Three beds were retained at the Ladywell Sanatorium (Salford) for the use of this district, but, as stated above, no cases were sent after June. Prior to that time 28 scarlet fever and 3 typhoid fever patients had been removed.

*Disinfection.*—No proper apparatus. Rooms fumigated with sulphur numbered 214.

*Water Supply* good, obtained from Bolton.

*Sewerage, Scavenging, &c.*—Sewage undergoes treatment in septic tanks. On two occasions—July and October—the Mersey and Irwell Joint Committee drew attention to unsatisfactory effluents. Scavenging, undertaken by the Authority, gives satisfaction.

*Sanitary Inspection.*—Four houses unfit for human habitation were condemned. Bakehouses and slaughterhouses are well kept, but as regards dairies and cowsheds there is room for more attention to general cleanliness. The few workshops were visited and no cause for complaint found; the sanitary defects pointed out in previous reports have been remedied. Privy ashpits still remain as a danger to health, but many have been entirely rebuilt and others repaired. The Inspector (Mr. Walsh) secured the abatement of 569 nuisances. Notices served amounted to 191. The most difficult nuisances to deal with were those caused by accumulations of dirt and obstructive erections in the small enclosed yards at the Farnworth end of the district. Notices were posted prohibiting these things, but so far with little or no effect. Twelve smoke observations were taken.

**Kirkham.**—(Area in acres, 857; Estimated Population, 3,711).—*Medical Officer of Health*, WM. BENSON, L.R.C.P.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·1 ..	31·9 ..	29·8
Death-rate .....	17·7 ..	17·8 ..	17·4
Zymotic death-rate .....	0·53 ..	0·54 ..	1·21
Phthisis ..	1·61 ..	1·08 ..	1·66
Respiratory ..	3·23 ..	3·24 ..	2·79
Rate of deaths under 1 year to 1,000 births .....	103 ..	76 ..	140

The birth-rate is reduced 5·8 per 1,000, but the mortality statistics vary but little from last year's averages. The zymotic rate is entirely accounted for by 2 deaths from diarrhœa, and these were not due to neglect or improper feeding. Only 8 notifications were received, viz., scarlet fever 3 (imported), typhoid fever 1 (due to defective drain), and erysipelas 4.

*Hospital Accommodation* available for ordinary infectious cases at Moss Side (Fylde Joint), and for small-pox at the joint hospital at Elswick. Three scarlet fever cases and one typhoid fever case were removed.

*Disinfection.*—No apparatus.

*Water Supply* good, obtained from the Fylde Water Board.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the estuary of the River Ribble after passing through settling tanks. Scavenging is well carried out under the control of the Council.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, and lodging-houses are clean and well conducted. Dairies and

cowsheds are only "fair," but as the question of adopting regulations is under consideration an improvement in these places may shortly be expected. Factories and workshops are well managed, and no complaints have been made. Many improvements have taken place in the condition of privies, and during the year 6 were replaced by water closets. The Inspector secured the abatement of 223 nuisances after the service of 103 notices.

**Lancaster (Borough).**—Area in acres, 3,506; Estimated Population, 43,570).—*Medical Officer of Health*. G. R. PARKER, L.R.C.P. (Lond.): *Salary*, £170 (including £20 for the Port).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	24·4 ..	24·9 ..	26·7
Death-rate .....	13·0 ..	11·0 ..	15·4
Zymotic death-rate .....	0·96 ..	0·70 ..	1·92
Phthisis „ .....	1·05 ..	0·89 ..	1·21
Respiratory „ .....	1·60 ..	1·62 ..	2·79
Rate of deaths under 1 year to to 1,000 births .....	153 ..	109 ..	155

The birth-rate (24·4)—the lowest recorded in Lancaster for 15 years—is only fractionally below last year's average. The very low death-rate of 1903 has not been maintained, but the rise is not great, the average still being well below the rate for the County. An increase as compared with 1903 is noted in the zymotic rate, but it is yet below the average of the preceding decade. The great improvement in the infantile mortality recorded last year has also not been maintained, the rate for 1904 approximating very closely to the mean of the 10 years 1894-1903. The establishment of a municipal milk depôt is recommended by Dr. Parker as one of the means of reducing infantile mortality.

It was with a view of checking this appalling waste of human life that the Corporation in 1903 appointed a Lady Health Visitor. Every infant is visited as soon after birth as possible, and advice given to the mother as to care and feeding. During the year under report, 692 infants came under observation, the total number of visits paid to these being 2,809. The majority of the visits are made to the courts, alleys, and slums of the town, where the habits of the occupants demand constant attention on the part of the Inspectors. Premature birth was returned as the cause of death in 27 instances. These deaths are largely due to the unhealthy conditions under which the mothers live, and to the labour to which they are subjected prior to the child being born. The following tabular statement gives the death-rates in the various Wards :—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Bulk Ward.....	23·51 ..	19·20 ..	·66 ..	281
Castle Ward .....	21·23 ..	13·98 ..	·77 ..	134
John O'Gaunt Ward ..	29·75 ..	12·37 ..	·44 ..	133
Park Ward .....	15·04 ..	7·75 ..	·45 ..	80
Queen's Ward.....	20·76 ..	12·83 ..	·75 ..	145
Scotforth Ward .....	22·20 ..	10·86 ..	1·10 ..	127
Skerton Ward.....	34·86 ..	14·29 ..	2·18 ..	150
St. Anne's Ward.....	25·53 ..	17·64 ..	1·03 ..	227

As in previous years, Bulk and St. Anne's Wards have produced the least satisfactory averages. Measles gave rise to 17 deaths against 1 death in 1903. The deaths occurred chiefly in spring and early summer, when the disease was epidemic in the town. Dr. Parker is strongly of opinion that the spread of the disease is greatly fostered by school attendance, and by want of isolation of the sick in the early as well as the late stages of the disease. Diarrhoea contributed 11 deaths and whooping cough 8 deaths, against 9 and 6 deaths respectively in the previous year. Small-pox was entirely



absent from the Borough during the period under review. Scarlet fever had a diminished prevalence 138 cases being notified with 3 deaths, as compared with 188 cases 3 deaths in 1903 and 173 cases 2 deaths in 1902. Fifty per cent. of the cases were removed to hospital. Dr. Parker states, "my belief in the value of the hospital treatment of scarlet fever continues undiminished, both as regards the prevention of the spread of the disease and the benefit which accrues to the individual. It is manifestly much more healthy for the patient to live and sleep where there is an ample supply of fresh air than under such conditions as prevail in most cottage houses." A very gratifying improvement has taken place in the number of cases of typhoid fever, viz., 36 with 3 deaths, against 65 and 9 deaths last year, and 61 with 7 deaths in 1902. Very probably the climatic conditions of the year favourably influenced the disease. The epidemic of diphtheria which has now existed for five years is slowly abating, this being the first of the five years in which no death has occurred. Only 14 notifications were received, as compared with 36, 95, 134, and 118 in the four previous years. On account of the prevalence of small-pox in Lancashire and other counties, it was deemed advisable to continue the notification of chicken-pox, with the result that 153 cases were reported. The remaining notifications were erysipelas 22 and puerperal fever 3. The facilities for bacteriological examinations offered by the Council are frequently taken advantage of in suitable cases.

*Hospital Accommodation.*—Ninety-eight cases were removed to hospital, viz., 69 scarlet fever and 29 typhoid fever. The total cost of maintenance was £594 14s. 9d., or 1s. 5·49d. per head per day. During the year a hospital of 20 beds has been built at Littlefell for small-pox patients only. This provision allows of increased accommodation for scarlet fever and typhoid fever at the sanatorium.



*Disinfection.*—The steam apparatus at the sanatorium was used for the disinfection of 3,982 articles. Houses are disinfected with formaldehyde, sulphur, or perchloride of mercury.

*Water Supply* is of the same excellent quality as hitherto.

*Sewerage, Scavenging, &c.*—Sewage is conveyed to the River Lune without any treatment. Certain faulty sewers have been reconstructed and similar work is still in progress. Scavenging of the town and the removal of refuse are in the hands of the Authority, and the work is “well done.” A refuse destructor is in operation.

*Sanitary Inspection.*—As in former years inspection of the town has been systematically carried out with the result that a large number of temporary nuisances have been abated. Bakehouses—62 in number—have been regularly inspected and found in good order. Three underground bakehouses were condemned. The public abattoir and four private slaughter-houses are kept under constant supervision. Lodging-houses are well looked after from a sanitary point of view, and the police inspection shows that they are well conducted. Little change is to be noted in the condition of dairies and cowsheds, but in a few instances improvements have taken place. The administration of the Factory Act necessitated about 600 visits to factories and workshops, and only a few defects were discovered. Examination of 105 canal boats revealed 5 infringements of the Act. The Inspector (Mr. Smith) reports on a vast amount of sanitary work accomplished. Over 3,000 miscellaneous nuisances were abated after service of notice, and many others received attention without recourse to formal notice. Sixteen smoke observations were taken. Appended to the report are statistics as to rainfall, temperature, &c.

*Port of Lancaster.*—The population of the Port is again estimated at 109. No births or deaths have taken place

within this district during the year, and no case of infectious disease has been notified, or otherwise come to the knowledge of the sanitary officials. The total number of vessels which entered the Port was 206, with a total tonnage of 40,823 tons, and having on board about 1,523 hands. Good water can always be obtained by purchase, but water is taken from the canal and other local sources at Glasson Dock. This water is not a safe potable water, and must deteriorate very much by being kept in closed tanks on board. Eighty-nine visits of inspection were paid to the vessels in the Port.

**Lathom and Burscough.**—(Area in acres, 13,660: Estimated Population, 7,446).—*Medical Officer of Health*, J. G. LAING, L.R.C.P.I.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	28·8 ..	31·1 ..	31·4
Death-rate .....	15·7 ..	11·2 ..	15·0
Zymotic death-rate .....	2·01 ..	0·81 ..	1·84
Phthisis       ,, .....	1·20 ..	1·63 ..	1·01
Respiratory   ,, .....	2·82 ..	1·22 ..	2·48
Rate of deaths under 1 year to 1,000 births .....	172 ..	96 ..	133

The mortality statistics are not so favourable as those of last year, the death-rate being increased 4·5 per 1,000 of the population, the zymotic rate 1·20, while the infantile mortality rose from 96 per 1,000 births to 172, and was the highest recorded for 10 years. Dr. Laing attributes much of the infant mortality to improper feeding, undue exposure, and dirty surroundings. Whooping cough was very prevalent at various times and necessitated closure of five schools; 6 deaths were due to this disease, and diarrhoea and measles caused 5 and 3 deaths respectively. Forty-four notifications

of infectious disease were received, viz., scarlet fever 19, typhoid fever 12, diphtheria 4 (1 fatal), erysipelas 6, and puerperal fever 3.

*Hospital Accommodation* is provided jointly with the urban district of Ormskirk, and the hospital is shortly to be extended. Seven cases were removed—scarlet fever 5 and typhoid fever 2. In addition, a small hospital is available for the reception of small-pox.

*Disinfection.*—The steam apparatus at the hospital is used for clothing, bedding, &c., and houses are fumigated either with sulphur or formalin.

*Water Supply* obtained from the Bath Springs, Burscough, is of very good quality and abundant.

*Sewerage, Scavenging, &c.*—Sewage is treated in bacteria beds followed by land irrigation. A separate purification plant is provided for the outlying district of Westhead, and the more scattered portions of the district drain into cesspools. During the year many houses have been connected up to the main sewers. Scavenging, as carried out by contract, gives satisfaction.

*Sanitary Inspection.*—Several old houses have been pulled down as no longer habitable. On the whole, house accommodation is good, but owing to high rents in many cases two families join at one house. Bakehouses, dairies and cow-sheds, and slaughter-houses are all described as satisfactory. One of the latter, which was deemed unsuitable, was demolished and subsequently rebuilt. Fifty-one inspections were made of factories and workshops, only 2 defects being noted. Of 26 canal boats examined, all except one were satisfactory. The Inspector (Mr. Darby) served 30 notices, and as a result 44 nuisances were abated.

**Lees.**—(Area in acres, 203 ; Estimated Population, 3,681).—  
*Medical Officer of Health*, WM. STANFIELD, M.D. ; *Salary*,  
 £20.

Per 1,000 of Population.	1901.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	23·0 ..	30·8 ..	27·1
Death-rate .....	17·6 ..	24·0 ..	19·2
Zymotic death-rate .....	1·90 ..	3·82 ..	1·65
Phthisis „ .....	0·54 ..	1·09 ..	1·45
Respiratory „ .....	3·25 ..	3·82 ..	3·48
Rate of deaths under 1 year to 1,000 births.. .....	188 ..	247 ..	184½

The most noticeable feature of the report is the diminution in the birth and death rates as compared with last year of 7·8 and 6·4 per 1,000 of the population respectively. The zymotic rate is reduced one-half, and the rate of deaths under one year to 1,000 births fell from 247 to 188. Measles of a mild type was prevalent from October to the end of the year, and it was deemed advisable to close for a short period the infants' department of one of the schools. Only 1 death from measles took place, and diarrhoea and whooping cough each contributed 1 fatality. Diphtheria gave rise to 8 cases and 4 deaths ; the disease was most probably introduced from the adjoining rural district and then spread by personal contact. Scarlet fever was responsible for 4 attacks, and erysipelas and puerperal fever each 1 case.

*Hospital Accommodation* available at Strinesdale, Oldham, but no cases were removed.

*Disinfection.*—No apparatus, sulphur fumigation relied upon.

*Water Supply* obtained from the Oldham Corporation.

*Sewerage, Scavenging, &c.*—Sewage is conveyed to the Oldham Corporation sewers. Scavenging—performed by contract—gives satisfaction.

*Sanitary Inspection.*—Periodical inspections of the district are made, and bakehouses, slaughter-houses, dairies and cowsheds, are kept under observation. Factories and workshops received 40 visits. The Inspector (Mr. Liversage) served 27 notices for nuisance abatement, and 5 notices for sanitary improvement at factories or workshops. Form C. has not been supplied.

**Leigh (Borough).**—(Area in acres, 6,358 ; Estimated Population, 43,000).—*Medical Officer of Health*, J. KING, M.B. ; *Salary*, £120.

Per 1,000 of Population	1904.	1903.	Mean* of 10 years. 1894-1903.
Birth-rate .....	33·1 ..	34·0 ..	35·5
Death-rate .....	17·6 ..	19·7 ..	20·0
Zymotic death-rate .....	2·95 ..	4·83 ..	3·74
Phthisis „ .....	0·72 ..	0·95 ..	1·22
Respiratory „ .....	3·25 ..	4·52 ..	4·44
Rate of deaths under 1 year to 1,000 births .....	192 ..	191 ..	181

With the exception of the infant rate (which is practically the same) all the mortality averages compare favourably with those of 1903. The general death-rate is reduced 2·1 per 1,000 of the population, and the zymotic rate 1·88. The lowest death-rate (13·89) occurred in Hope Carr Ward, and the highest (24·09) in St. Joseph's Ward. Measles, which prevailed epidemically in 1903 (when 107 deaths were registered) continued during the early months of the year under review, and caused 11 deaths. Whooping cough, prevalent throughout the year, gave rise to 13 deaths, all being of children under 5 years of age. Diarrhoea contributed 59 deaths, 48 of which occurred amongst children under 1 year, and 11 in the age period 1 and under 5. One case of small-pox was notified in September—the patient was at once removed to hospital, the house disinfected, and two of the contacts re-vaccinated.



The epidemic of scarlet fever reported in 1903 continued throughout the year under review, no less than 693 cases being notified with 28 deaths, against 414 cases 17 deaths in 1903, and 198 cases 10 deaths in 1902. The Wards to suffer most were St. Mary's 205 cases, and St. Paul's 133 cases. The main causes of the continued prevalence were imperfect home isolation of the patients, indiscriminate visiting, and very likely to the fact that a large number of mild cases were undetected. All the schools were disinfected, and in one instance a school was closed for a period of three weeks. The remaining infectious diseases were typhoid fever 35 cases with 12 deaths, diphtheria and membranous croup 16 cases 4 deaths, erysipelas 41 cases 5 deaths, puerperal fever 2 cases 2 deaths, and continued fever 1. The voluntary notification of phthisis is still in force, but only 10 cases were notified during the year. After death from this disease, or in case of removal of the patient, the house is disinfected, if desired.

*Hospital Accommodation* is provided at the joint sanatorium at Astley, where there is also provision for small-pox. The cases removed were as follows:—small-pox 1, scarlet fever 266, and typhoid fever 10.

*Disinfection*.—An Inquiry was held in the early part of the year as to borrowing money for the provision of a much-needed disinfecting chamber, but its erection is, for the moment, in abeyance. Twelve schools and 597 houses were fumigated.

*Water Supply* obtained from Liverpool. For some years owing to the rapid growth of the town, the supply has been inadequate, but a new 16-inch water main was constructed during 1904, and the supply is now quite satisfactory.

*Sewerage, Scavenging, &c.*—Sewage is treated at the Leigh and Atherton joint works. On two occasions—May and September—the effluent did not satisfy the Mersey and Irwell Joint Committee. The removal of nightsoil is still



carried on by contract. An Inquiry was held and loan sanctioned for the erection of a refuse destructor, but the work has not yet been commenced.

*Sanitary Inspection.*—Fourteen houses were condemned as unfit for habitation; of these 2 were demolished and 5 closed. Bakchouses and slaughter-houses—periodically examined—were found satisfactory. Two applications for registration as common lodging-houses were refused owing to want of sanitary conveniences and general structural defects. One house was eventually placed on the register after complying with the Council's requirements. Dairies and cow-sheds received attention; in a few cases defective drainage and insanitary conditions were remedied. During the year 330 visits were paid to factories and workshops, and 130 to canal boats. Dr. King prepared a special report with respect to the conversion of privies into water closets; during 1904 the number of such conversions was 106. The Inspector (Mr. Jackson) gives details of the sanitary work carried out, which included the abatement of 574 nuisances, 644 notices served, 155 smoke observations, &c.

**Levenshulme**—(Area in acres, 606; Estimated Population, 15,500).—*Medical Officer of Health*, H. E. EDLIN, M.R.C.S.; *Salary*, £70 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	28·9 ..	30·0 ..	26·8
Death-rate .....	11·7 ..	11·6 ..	11·8
Zymotic death-rate .....	1·54 ..	0·74 ..	1·37
Phthisis „ .....	1·16 ..	0·44 ..	1·11
Respiratory „ .....	2·12 ..	2·44 ..	1·93
Rate of deaths under 1 year to 1,000 births .....	104 ..	98 ..	122

The report is again of a favourable character, the low death-rate being maintained. The zymotic and infant rates

are fractionally in excess of those of 1903. The birth-rate showed a reduction of 1·1 per 1,000 of the population as compared with last year, but was 2·1 above the mean of the preceding decade. North-West Ward has the highest death-rate, with a low birth-rate. Measles became slightly epidemic in the early months of the year, and altogether caused 5 deaths. The question of notification was considered, but it was decided that the advantages were not sufficiently obvious, and the difficulties of enforcement too great in the present state of opinion regarding the disease. Whooping cough gave rise to 9 fatalities and diarrhœa 7. Small-pox appeared in April, and again in August and September, but fortunately only 5 cases occurred. Prompt removal to hospital took place. The source of infection could not be traced. Scarlet fever was the cause of 34 cases 1 death, typhoid fever 3 cases, diphtheria 10 cases 2 deaths, and erysipelas 3 cases. Bacteriological examinations were made in several instances, and proved of great assistance. Two cases of anthrax occurred, one of which had a fatal termination. The animal which had been slaughtered, and from which the persons attacked were inoculated, was sold to a butcher, and by him retailed to his customers. Fortunately, no evil results occurred, though great alarm was aroused. The tongue of the beast was seized, and found to contain living anthrax bacilli. A prosecution was instituted against the butcher, and a fine of £10 and costs inflicted.

*Hospital Accommodation.*—The 5 cases of small-pox were removed to the Hyde Corporation hospital, and 19 scarlet fever, 2 typhoid fever, and 7 diphtheria patients were removed to the Baguley sanatorium, erected by Withington, but now belonging to the Manchester Corporation.

*Disinfection.*—The new steam apparatus has proved of great value. Fifty-nine houses were fumigated by means of formaldehyde.

*Water Supply* good, obtained from the Manchester Corporation.

*Sewerage, Scavenging, &c.*—Sewage is conveyed into the Withington sewers. House refuse is removed regularly and systematically by the Council's men, the bulk of the refuse being burnt in a destructor.

*Sanitary Inspection.*—One house unfit for habitation was closed. Bakehouses and slaughter-houses are reported as "satisfactory." and dairies and cowsheds "fairly good." Inspections of factories and workshops numbered 148. Many of the privy middens continue to be a prolific source of nuisance. On complaint, the sanitary officials make an examination, and if they are considered prejudicial to health, conversion to water closets is recommended. During the year, 133 were converted. The Inspector (Mr. Lord) reports "that of the 675 nuisances dealt with most were abated by simply calling attention to them without formal notice; in 142 preliminary notices were written; in 79 legal notices were served; and in 7 legal proceedings were successfully instituted." A "few" smoke observations were taken.

**Leyland.**—(Area in acres, 3,725; Estimated Population, 7,000).—*Medical Officer of Health*, E. BERRY, L.F.P.S.G.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	25·0	25·1	..	27·7
Death-rate .....	12·8	14·2	..	17·2
Zymotic death-rate .....	0·85	0·28	..	1·34
Phthisis ..	1·00	1·28	..	1·44
Respiratory ..	2·71	2·14	..	3·45
Rate of deaths under 1 year to 1,000 births .....	114	119	..	171

The birth-rate remains practically the same as last year, and the death-rate—the lowest recorded for many years—

shows a reduction of 1·4 per 1,000 of the population. The zymotic rate, however, is higher than in any year since 1898, the increase being due mainly to the deaths from diphtheria and membranous croup. Only 4 cases of these diseases were notified, but all terminated fatally. Measles and whooping cough—both prevalent from March to October—each caused 1 death. Scarlet fever gave rise to 5 cases, typhoid fever 6 cases, erysipelas 5 cases, and puerperal fever 1 case.

*Hospital Accommodation.*—Three cases of scarlet fever and 4 of typhoid fever were removed to the joint hospital at Heath Charnock.

*Disinfection.*—No apparatus.

*Water Supply* obtained from Clayton-le-Woods, good but hard. Steps are being taken to remove the hardness.

*Sewerage, Scavenging, &c.*—The mode of sewage treatment is “settlement and irrigation.” The Local Government Board have been asked to sanction a loan for alterations to outfall works. The Council undertake scavenging. Dr. Berry again reports that some of the private streets are “a disgrace to the township.”

*Sanitary Inspection.*—The character of the house accommodation of the district is improving. Slaughter-houses were visited at “frequent intervals,” and they were found satisfactory as regards cleanliness and limewashing. Apparently no attention is paid to dairies and cowsheds, and these places are not subject to regulations. The Council might with advantage, at an early date, take into consideration the question of adopting such regulations; and, in the meantime, there is no reason why the inspection of these premises should not be undertaken. Factories and workshops received 16 visits. The Inspector served 29 notices for nuisance abatement.

**Litherland.**—(Area in acres, 857 : Estimated Population, 14,065).—*Medical Officer of Health*, BENJAMIN SUMNER, M.D. ; *Salary*, £50 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	39·5	.. 36·8	..	35·6
Death-rate .....	16·9	.. 12·8	..	14·4
Zymotic death-rate .....	4·55	.. 0·47	..	2·49
Phthisis „ .....	0·78	.. 0·94	..	0·92
Respiratory „ .....	3·34	.. 2·90	..	2·90
Rate of deaths under 1 year to 1,000 births .....	172	.. 113	..	160

An increase in the birth-rate is again recorded, the rate for the year under review being 2·7 per 1,000 of the population above last year's rate and 3·9 higher than the mean of the 10 years 1894-1903. The general death-rate and zymotic rate are each increased over 4 per 1,000, and the infant rate rose from 113 in 1903 to 172. These increases are due to the large number of deaths from diarrhœa, measles, and whooping cough. The former caused much anxiety during the hot months, and no less than 34 deaths were attributed to it. Dr. Sumner states that "personal element has a great deal to do with this disease ; in many cases uncleanness, carelessness, and ignorance of the proper principles of infant feeding were very manifest." Measles and whooping cough each contributed 10 deaths, the prevalence of the former disease in February necessitating school closure. Scarlet fever had a diminished prevalence, but the type must have been more virulent than in 1903 ; of 32 cases notified 5 died, whilst in the previous year only 1 death took place out of 131 cases. Typhoid fever accounted for 7 cases 2 deaths, diphtheria and membranous croup 9 cases 3 deaths, and erysipelas 7 cases.

*Hospital Accommodation.*—Twenty-four cases were removed to the Bootle Corporation hospital at Linacre, viz.,



scarlet fever 14, typhoid fever 4, diphtheria 5, and membranous croup 1.

*Disinfection.*—No apparatus.

*Water Supply* good, obtained from Liverpool.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the River Mersey. Scavenging, under the supervision of the Authority gives satisfaction.

*Sanitary Inspection.*—Bakehouses are kept in a cleanly state, although three underground do not comply with the requirements of the Act. Dairies and cowsheds were found in good order, small matters requiring rectification have been attended to immediately on attention being drawn thereto. The general condition of factories and workshops is “excellent,” two hundred and thirty-three visits being paid to these places, and only 8 defects were observed. The Inspector reports on 521 nuisances dealt with, to secure the abatement of which necessitated 334 notices.

**Littleborough.**—(Area in acres, 7,853; Estimated Population, 11,412).—*Medical Officer of Health*, G. K. PITCAIRN, M.B.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	21·6 ..	22·1 ..	22·5
Death-rate .....	15·1 ..	15·0 ..	15·0
Zymotic death-rate .....	1·22 ..	0·61 ..	0·95
Phthisis „ .....	1·31 ..	0·79 ..	1·16
Respiratory „ .....	2·71 ..	2·73 ..	2·99
Rate of deaths under 1 year to 1,000 births .....	133 ..	159 ..	132

The birth and death rates are almost the same as in 1903, and approximate very closely to the averages for the preceding decade. Measles, although not fatal in any case, was



prevalent at the beginning of the year, particularly in Smithy Bridge and Summit. Diarrhoea—the cause of 2 deaths—prevailed extensively in March, April, and May, but much less so than usual in the summer and autumn. Whooping cough also caused some trouble, 5 deaths being attributed to this complaint. One case of small-pox was notified in December, and was promptly and successfully isolated at home. Scarlet fever was responsible for 141 attacks, 4 of which terminated fatally. The disease was present throughout the whole year, and was not confined to any particular locality. Several of the cases were so mild that they were not recognised until desquamation had commenced, and they mixed with other children, thus spreading the disease. Dr. Pitcairn is of opinion that “such diseases as scarlet fever and measles would not spread so rapidly if children were not sent to school at the ridiculously early age of three years, and in some instances even younger. Children so young should not be allowed in elementary schools.” Diphtheria and membranous croup accounted for 15 cases 3 deaths, and erysipelas contributed 2 cases.

*Hospital Accommodation.*—Some progress has been made towards providing the joint hospital, under County Council Order, for this and two adjoining districts.

*Disinfection.*—Dry heat apparatus available. Houses are fumigated with formaldehyde.

*Water Supply* for the greater portion of the district is obtained from the Rochdale Corporation. At various times complaints are received as to the “muddy” character of the water. Outlying parts rely on private sources, two of which were condemned during the year under report.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. The Authority carry out scavenging in an efficient manner.

*Sanitary Inspection.* — Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds are all said to be in “good condition.” Factories and workshops also leave little to be desired, only 14 defects being noted on 230 visits of inspection. The Inspector served 159 notices for nuisance abatement, examined 47 canal boats, took 34 smoke observations, &c.

**Little Crosby.**—(Area in acres, 1,903; Estimated Population, 580).—*Medical Officer of Health*, EDWARD BUXTON, M.D.; *Salary*, £10 10s. (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	13·7 ..	22·4 ..	17·0
Death-rate .....	10·3 ..	12·1 ..	8·9
Zymotic death-rate .....	1·72 ..	nil. ..	0·15
Phthisis       ,, .....	1·72 ..	nil. ..	0·64
Respiratory   ,, .....	nil. ..	nil. ..	1·35
Rate of deaths under 1 year to 1,000 births .....	nil. ..	76 ..	100

Eight births and 6 deaths were registered in this district during the year. There were no deaths amongst children under one year of age. For the first time for 10 years a death was attributed to zymotic disease, viz., scarlet fever. Three cases of this disease were reported and also one case of diphtheria. Measles was somewhat prevalent in the autumn, the village schools being in consequence closed for a short period.

*Hospital Accommodation.*—Nil.

*Disinfection* is carried out by an arrangement with Great Crosby.

*Water Supply.*—The whole of the district is now served by the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage flows into a settling tank, the sludge being used for agricultural purposes. Scavenging receives attention by the Council's employees.

*Sanitary Inspection.*—Dairies and cowsheds, subject to regulations, are in fairly good condition. There are no bakehouses, lodging-houses, or slaughter-houses. Only one notice was required for nuisance abatement.

**Little Hulton.**—(Area in acres, 1,699; Census Population, 7,294).—*Medical Officer of Health*, J. H. MARSH, L.R.C.P.; *Salary*, £35.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	27·4	27·2	31·5
Death-rate .....	13·5	12·8	15·9
Zymotic death-rate .....	1·37	1·64	2·09
Phthisis „ .....	0·41	0·41	0·81
Respiratory „ .....	3·15	2·87	4·24
Rate of deaths under 1 year to 1,000 births .....	170	100	146

Excepting the rate of deaths under 1 year to 1,000 births, which rose from 100 in 1903 to 170, the statistics for the year under review vary but slightly from those of the preceding year. Measles and whooping cough have been more or less prevalent during the year, especially so during the last quarter. Dr. Marsh says, “infant schools, no doubt, are the main factors in the constant recurrent outbreaks of these diseases. ....In my opinion not only would later attendance at school considerably reduce these epidemics, and the infant mortality, but would improve the mental and physical condition of the children.” Two deaths were due to measles, but whooping cough was non-fatal. Diarrhœa gave rise to 7 deaths. A case of small-pox occurred in October—a female

who contracted the disease whilst at work at a mill in Walkden. Prompt isolation in hospital took place, and no further spread resulted. Scarlet fever accounted for 68 cases, mostly in West Ward in October, and affected many of the scholars attending Peel schools. The outbreak, in all probability, originated through a "return hospital case" being allowed to attend school whilst in an infective condition, the result being a number of children contracted a mild form of the disease, and were desquamating when notified. The schools were closed for three weeks, and thorough disinfection carried out. Typhoid fever was responsible for 14 attacks, 10 of which took place in the Clegg Lane district, two blocks of buildings accounting for most of them. The Medical Officer has several times reported on the insanitary condition of these premises, but nothing has been done in the matter. Diphtheria, associated with membranous croup, contributed 13 cases 1 death, erysipelas 13 cases, and puerperal fever 2 cases 1 death.

*Hospital Accommodation.* Fifty-four cases were removed to the joint hospital at Farnworth, viz., small-pox 1, scarlet fever 46, typhoid fever 6, and diphtheria 1.

*Disinfection.*—Steam apparatus at hospital used. A "sprayer" is recommended for disinfecting purposes in lieu of sulphur fumigation.

*Water Supply* has been in every way satisfactory; it is obtained from the Bolton Corporation reservoirs.

*Sewerage, Scavenging, &c.*—Sewage is treated on two farms. Two new bacteria beds have been constructed, one at each works, but the Surveyor reports "it is quite evident from the experience of the last two years that some further measures will have to be adopted to deal with the sludge, particularly at the Ellenbrook works." For the Mather Lane portion of the district arrangements have been made to

connect the sewers to the system of the Worsley Urban Council. Scavenging is still done under contract, and “ while it may be said to be fairly satisfactory, it is yet far from giving those results which should be the aim of every well-governed locality.”

*Sanitary Inspection.*—Bakehouses are kept in fair condition as to cleanliness, ventilation, &c. Some of the slaughter-houses are in good order, but others are not “ worthy of imitation.” Dairies and cowsheds are clean, but many continued deficient in space, ventilation, and drainage. Until regulations are adopted it will be difficult to get these conditions remedied. Improvements have been made at some of the factories, but others remain with defects in their closet accommodation which ought not to exist. The Inspector (Mr. Davies) reports on 203 nuisances dealt with. Six smoke observations were taken. Dr. Marsh remarks that notwithstanding the service of notices there has been little or no abatement of the smoke nuisance.

**Little Lever.**—(Area in acres, 808 ; Estimated Population, 5,300).—*Medical Officer of Health*, J. S. PICKFORD, M.R.C.S. ; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·4	25·2	28·1
Death-rate .....	19·2	19·3	17·0
Zymotic death-rate .....	5·84	3·82	3·08
Phthisis „ .....	0·56	1·14	0·95
Respiratory „ .....	3·58	5·92	3·87
Rate of deaths under 1 year to 1,000 births .....	200	234	173

The birth and death rates remain practically the same as last year, but the zymotic rate rose from 3·82 to 5·84, and is the highest in the County. This rate is accounted for mainly by the outbreak of measles, which prevailed in epidemic form



during November and December, and caused no fewer than 15 deaths. The epidemic necessitated closure of all the schools. Diarrhoea contributed 9 deaths, and whooping cough 4. The infantile mortality, whilst showing an improvement on 1903, is still excessive. An analysis of the causes of death says Dr. Pickford, unmistakably points to the necessity for greater care on the part of mothers in matters relating to (1) their own health during the child-bearing period, (2) the feeding of infants, and (3) the provision of warm clothing, and avoidance of exposure to the cold early morning and night air. The notifications received amounted to 32, the lowest number reported in any year since the Act came into operation. They were as follows:—scarlet fever 7, typhoid fever 1, diphtheria and membranous croup 11 (3 fatal), erysipelas 9, puerperal fever 2, and phthisis—voluntarily notified—2.

*Hospital Accommodation* is available at the joint hospital at Farnworth, but no cases were removed during the year.

*Disinfection*.—Steam apparatus at hospital.

*Water Supply* obtained from Bury has been “fairly satisfactory,” the only complaint being of occasional turbidity.

*Sewerage, Scavenging, &c.*—The Ginger Fold sewage works continue “to show excellent results,” and scavenging has been satisfactorily carried out by the Council’s workmen.

*Sanitary Inspection*.—Two houses were condemned as unfit for human habitation and closed. Slaughter-houses, bakehouses, and dairies and cowsheds have all been systematically inspected, and found clean and well kept, and factories and workshops, with one exception, complied with the requirements. Forty-five canal boats came under observation. Several privy middens were abolished, and the water-carriage system substituted. The Inspector (Mr. Denton) served 54 notices, and as a result 43 nuisances were abated.



**Little Woolton.**—(Area in acres, 1,389 ; Census Population, 1,091).—*Medical Officer of Health*, C. STUART PETHICK, M.B. ; *Salary*, £25.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	15·5 ..	16·4 ..	20·2	
Death-rate .....	15·5 ..	7·3 ..	9·0	
Zymotic death-rate .....	1·83 ..	nil. ..	0·61	
Phthisis „ .....	0·91 ..	nil. ..	1·32	
Respiratory „ .....	2·74 ..	0·91 ..	0·97	
Rate of deaths under 1 year to 1,000 births .....	58 ..	111 ..	120	

The birth-rate is the lowest recorded since 1896, whilst the death-rate is higher than any year of the decennial period 1894-1903. The zymotic rate is due entirely to 2 deaths from scarlet fever. This disease broke out suddenly in April and caused 38 attacks. The only other notification was erysipelas (1 case).

*Hospital Accommodation.*—One bed at the Whiston sanatorium is reserved for this district, but if space permits more patients can be admitted. Thirteen of the scarlet fever patients were removed.

*Disinfection.*—Steam apparatus available.

*Water Supply* good, obtained from Liverpool.

*Sewerage, Scavenging, &c.*—“The efficiency of the sewage farm has been maintained.” The Authority carry out scavenging.

*Sanitary Inspection.*—Dairy and cowshed regulations are now in operation, and these places are described as “good.” Six notices were required for nuisance abatement, and in one instance the necessary work was not carried out until after the institution of legal proceedings.

**Longridge.**—(Area in acres, 3,285: Census Population, 4,304). — *Medical Officer of Health*, GEORGE JUKES, L.R.C.P., Ed.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·7 ..	25·7 ..	29·2
Death-rate .....	13·4 ..	13·4 ..	18·2
Zymotic death-rate .....	nil. ..	0·23 ..	1·60
Phthisis „ .....	1·62 ..	2·09 ..	1·65
Respiratory „ .....	2·09 ..	1·16 ..	3·48
Rate of deaths under 1 year to 1,000 births .....	78 ..	63 ..	147

The birth-rate shows an increase of 1·0 per 1,000, while the death-rate continues favourable, and exactly the same as in 1903. The infant rate is low, and the zymotic rate nil. Thirty-two cases of scarlet fever were notified; the disease although never epidemic in character, did not disappear from the district until September. There was a perfect immunity from diphtheria, typhoid fever, and measles.

*Hospital Accommodation.*—The joint hospital at Fulwood is nearing completion. In case of small-pox the joint hospital at Elswick is available.

*Disinfection.*—No apparatus. Thirty-two houses were fumigated.

*Water Supply* good, obtained from several small streams in Dilworth.

*Sewerage. Scavenging, &c.*—Sewage is treated by precipitation, filtration, and irrigation. Scavenging receives due attention from the Council's workmen.

*Sanitary Inspection.*—Bakehouses (2), slaughter-houses (3), and lodging-houses (2), are described as satisfactory, and dairies and cowsheds as "fair." Sixteen visits were paid to

factories and workshops resulting in a few instances in improved closet accommodation. It was not necessary to serve legal notice for the abatement of nuisances.

**Lytham.**—(Area in acres, 2,464; Estimated Population, 8,000).—*Medical Officer of Health*, J. C. FISHER, M.A., M.B.; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 19 years, 1894-1903.
Birth-rate : .....	19·5	.. 18·0	.. 19·0
Death-rate .....	13·1	.. 13·4	.. 13·5
Zymotic death-rate .....	0·62	.. 1·03	.. 0·79
Phthisis       ,, .....	0·62	.. 0·90	.. 1·09
Respiratory   ,, .....	2·37	.. 2·06	.. 1·95
Rate of deaths under 1 year to 1,000 births .....	70	.. 142	.. 146

As compared with last year the birth-rate shows an increase of 1·5, and the death-rate a decrease of 0·3 per 1,000 of the population. The zymotic rate and infant rate both show very satisfactory reductions. The death-rate of residents only equalled 11·7 per 1,000. Dr. Fisher reports that as far as can be gathered measles was conspicuous by being almost entirely absent during the year—only 1 death was attributed to this disease, and 2 deaths to whooping cough. Small-pox gave rise to 1 case—a lady who visited one of the Lancashire towns to see a relative—a little girl—who was unwell and being treated for a “drug rash.” On returning to Lytham the lady commenced with a modified attack of small-pox, and to confirm the theory that her relative was the origin of the mischief, she infected at her own home three other members of the family. Scarlet fever gave rise to 27 cases; the disease was most prevalent in the months of May and June, and South-West Ward was principally affected. In 6 cases at least the disease was imported, and in 10 others

it originated from contact with previous cases. Seventy-four per cent. of the persons attacked were removed to hospital. Typhoid fever contributed 5 cases 2 deaths, diphtheria 1 case, and erysipelas 2 cases.

*Hospital Accommodation* is provided at Moss Side (Fylde Joint) for ordinary infectious diseases, and at Elswick for small-pox. The cases removed were, small-pox 1, scarlet fever 20, and typhoid fever 3.

*Disinfection*.—A steam disinfecter has recently been erected. Articles disinfected numbered 633. Thirty-five rooms were fumigated with formaldehyde.

*Water Supply* is obtained from the Fylde Water Board.

*Sewerage, Scavenging, &c.*—Sewage is discharged untreated into the estuary of the Ribble shortly after high water. Great attention to sewer flushing has been paid during the year, and several additional ventilating shafts have been erected. The drains and sanitary fittings of 93 houses have been tested by the smoke machine, and in many cases defects were located and remedied. A large number of drains have been blocked, and upon examination the obstructions were found in many instances to be due to the neglect and carelessness of the occupiers. Scavenging, in the hands of the Authority, has been carried out very effectually.

*Sanitary Inspection*.—Careful attention has been paid to bakehouses, slaughter-houses, &c. It is hoped that a public abattoir will shortly be commenced. Dairies, cowsheds, and milkshops are visited regularly. Several alterations have been called for with regard to drainage and ventilation. Factories and workshops received 126 visits, 5 defects being noted. The Inspector (Mr. Yates) reports on the sanitary work carried out, which included the following:—visits and inspections 2 343, inspections of work in progress 267, nuisances abated 383, notices served 383, &c.

**Middleton (Borough).**—(Area in aeres. 4,775 ; Census Population, 25,178).—*Medical Officer of Health.* WM. GRAHAM, M.D., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	23·7	25·3	25·8
Death-rate .....	19·1	17·3	17·8
Zymotic death-rate .....	2·18	0·91	1·52
Phthisis „ .....	1·07	1·19	1·41
Respiratory „ .....	3·61	3·33	3·66
Rate of deaths under 1 year to 1,000 births .....	201	134	160

The statistics for the year under review are not so favourable as those of 1903. The death-rate rose 1·8, the zymotic rate 1·27 while the rate of deaths of infants under 1 year was 201 as compared with 134. These increases are due mainly to the number of deaths from diarrhoea and measles, viz., 14 and 10 respectively. One death was ascribed to whooping cough. Small-pox gave rise to 3 cases, and these represented separate outbreaks. One case occurred in a public house, which was closed for 14 days. During the year there was a very serious epidemic of scarlet fever, no less than 535 cases being notified, and 26 deaths resulted. In many instances the disease was spread by gross carelessness, and in three instances offenders were summoned to appear before the Health Committee, and cautioned. In another case a child in the desquamating stage was found playing with other children in the street. The father of the child was summoned before the Magistrates, and ordered to pay the costs of the proceedings. Typhoid fever gave rise to 5 attacks, diphtheria and membranous croup 6 cases 3 deaths, erysipelas 22 cases, and puerperal fever 2 cases.

*Hospital Accommodation* can be obtained at Marland

(Rochdale), a retaining fee of £200 per annum being paid. Eighty cases were removed. viz., small-pox 3, diphtheria 1, and scarlet fever 76.

*Disinfection.*—Steam apparatus provided during the year and proved of great value. Rooms fumigated numbered 1,814.

*Water Supply* good, obtained from the Heywood and Middleton Joint Water Board.

*Sewerage, Scavenging, &c.*—In February, the Mersey and Irwell Watershed Committee reported that the existing outfall works—International system and bacteria beds—were inadequate, and as a result the Corporation made further application to the Local Government Board for money to provide additional settling tanks, and have for some time been engaged in carrying out the proposed extensions, consisting of two large bacteria beds. Scavenging, performed principally by the Authority, gives satisfaction.

*Sanitary Inspection.*—A number of back-to-back houses still remain, and also many defective and unpaved backyards which are detrimental to health. Bakehouses are described as good, and slaughter-houses fair. Dairies and cowsheds are not satisfactory, the Inspector (Mr. Norton) reporting that “the drainage and ventilation of all the cowsheds visited were in bad condition and the lighting even in the best shippens can only be considered as fair. Linewashing and general cleanliness appear to be treated in a most indifferent manner.” Factories and workshops received 121 visits, and 19 canal boats were examined. Privy conversions make progress, 193 being altered to slop-water closets during 1904. The Inspector served 524 notices, and as a result, 606 nuisances were abated. In 12 instances summonses had to be issued before the necessary work was carried out. Smoke observations numbered 41, 8 being followed by legal proceedings.



**Milnrow.**—(Area in acres, 5,198 ; Estimated Population, 8,400). — *Medical Officer of Health*, JOHN CHADWICK, M.R.C.S. : *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	21·5 ..	22·7 ..	19·7
Death-rate .....	19·0 ..	13·8 ..	14·7
Zymotic death-rate .....	2·50 ..	1·08 ..	1·13
Phthisis .. .. .	1·54 ..	1·20 ..	1·23
Respiratory .. .. .	3·92 ..	2·77 ..	2·74
Rate of deaths under 1 year to 1,000 births .....	171 ..	132 ..	137

As compared with the preceding year the birth-rate declined 1·2 per 1,000 of the population, while the general death-rate rose 5·2. The zymotic, phthisis, respiratory, and infant rates were also less favourable. The increase in the death-rates is due chiefly to the greater number of deaths from measles, whooping cough, and diarrhœa, viz., 7, 6, and 4 respectively. In 1903 measles and diarrhœa did not cause a single fatality, and only 1 death was ascribed to whooping cough. To check the spread of measles, school closure was resorted to. Small-pox gave rise to 1 case; the patient was promptly isolated in hospital and the usual precautionary measures adopted. Scarlet fever was accredited with 14 cases and typhoid fever 7 cases; there has not been a single death from scarlet fever for two years, nor from typhoid fever for four years. The other notifications were diphtheria 13 (4 fatal), erysipelas 14, and puerperal fever 1.

*Hospital Accommodation.*—The erection of the joint isolation hospital has at last been commenced. The small-pox case mentioned above was removed to the Oldham Corporation hospital.

*Disinfection.*—Fraser's hot air apparatus provided. Houses are disinfected either with sulphur or formalin.

*Water Supply* obtained from the Rochdale and Oldham Corporations and from springs.

*Sewerage, Scavenging, &c.*—Sewage undergoes treatment by precipitation and filtration. During the year new filters have been constructed. Many house connections to the main sewers have been made. The Council's officials are entrusted with scavenging, which is satisfactorily performed.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, tripe boiling places, and dairies and cowsheds have been regularly inspected, and their condition as to cleanliness, lime-washing, &c., has given satisfaction. Fifty-one inspections of factories and workshops took place, resulting in several instances in improved closet accommodation. Thirty-six privy middens were abolished, and the tub system substituted. The Inspector (Mr. Hoyle) wrote 25 letters and served 17 notices for nuisance abatement. He took 37 smoke observations, and in 5 instances issued legal notices in cases where the limit of eight minutes per hour of black smoke was exceeded.

**Morecambe (Borough).**—(Area in acres, 1,801; Estimated Population, 13,000).—*Medical Officer of Health*, J. W. WATTERSON, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	16·5	.. 16·9	..	21·9
Death-rate .....	14·4	.. 13·9	..	13·1
Zymotic death-rate .....	1·15	.. 0·23	..	1·42
Phthisis „ .....	0·69	.. 0·84	..	0·69
Respiratory „ .....	2·07	.. 2·00	..	2·10
Rate of deaths under 1 year to 1,000 births .....	148	.. 131	..	139

The birth-rate, which again shows a reduction, is the lowest recorded, and 5·4 per 1,000 below the mean of the

10 years 1894-1903. The general death-rate is fractionally higher than last year, and the zymotic and infant rates are not so favourable as in 1903. The death-rate would be 12·6 per 1,000 if the deaths of "visitors" were excluded. Measles gave rise to only 3 deaths, and as far as could be ascertained very few cases of this disease were present during the year. Whooping cough also was remarkably absent until the end of the year, when it became so prominent as to threaten a large incidence. Dr. Watterson recommended closure of one of the public elementary schools in order to suppress its spread. Fortunately only 1 death was due to this disease. Diarrhœa contributed 4 fatalities. Small-pox gave rise to 3 cases, the first person attacked being a visitor from Dewsbury. The second case reported was the wife of the first patient, and the third was the man in charge of the disinfecting station. Scarlet fever was accredited with 48 cases and 2 deaths. Many of the cases occurred in persons who had only just arrived in Morecambe, and one of the two fatal cases was a boy who became ill the day following his arrival. Typhoid fever caused 5 cases 2 deaths—1 death a visitor. Diphtheria gave rise to 14 cases 3 deaths, and here again 2 of the fatal cases were imported. Eleven out of the 14 attacks were confirmed by bacteriological examinations, no specimens being taken in the remaining three. Erysipelas was responsible for 6 cases, and puerperal fever 1 case.

*Hospital Accommodation* consists of 35 beds and 3 cots. The lower block—25 beds 2 cots—is used principally for scarlet fever, and the upper block—10 beds 1 cot—for small-pox. The cases treated in hospital were scarlet fever 36, and small-pox 3.

*Disinfection.*—The steam apparatus was used 44 times, and 124 rooms in 54 houses were sprayed with formalin solution.

*Water Supply* obtained from springs on the fells is excellent.

*Sewerage, Scavenging, &c.*—A portion of the sewage is treated in closed septic tanks, and the remainder is discharged into the sea. Many house drains were carefully tested. Scavenging receives attention at the hands of the Corporation employees, refuse being taken to the destructor.

*Sanitary Inspection.*—Bakehouses, including 19 underground, are mostly satisfactory, and slaughter-houses, with one exception, are in good order. A public abattoir would, however, be an advantage. Dairies and cowsheds are described “some very good, some fair, and a few not satisfactory.” Factories and workshops are kept under observation, and periodical visits are made to vans, tents, and houses where the business of shrimp-picking is carried on. During the year 45 privy middens were abolished. The Inspector (Mr. Lamb) gives details of 550 nuisances dealt with. Meteorological statistics are appended to the report.

**Mossley (Borough).**—(Area in acres, 3,622; Estimated Population, 13,633).—*Medical Officer of Health*, J. HEALEY, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	20·3 ..	18·7 ..	22·0
Death-rate .....	15·1 ..	15·1 ..	15·9
Zymotic death-rate .....	1·24 ..	0·66 ..	1·32
Phthisis „ .....	0·95 ..	1·03 ..	1·25
Respiratory „ .....	3·44 ..	2·80 ..	3·04
Rate of deaths under 1 year to 1,000 births .....	140 ..	105 ..	137

The birth-rate shows an increase of 1·6 per 1,000 of the population on the exceptionally low rate of 1903, while the

death-rate remains exactly the same. The zymotic and infant rates are less favourable, the latter being the highest recorded since 1899. Measles was prevalent over the whole of the Borough, especially during the last three months of the year. It was of a more severe type than usual, and gave rise to 10 deaths. Whooping cough contributed 2 deaths, and diarrhœa 1 death. Small-pox occurred in December, the patient being an unvaccinated boy of seven years, whose father, a hawker, is supposed to have been in contact with some infected person, and possibly carried the disease on his clothes to the boy. The other members of the family were immediately vaccinated, and no further spread of the disease took place. Scarlet fever was the cause of 34 cases and 2 deaths. The disease, which was of a mild type, occurred mostly during the last four months of the year, principally in the Lancashire and Cheshire Wards. Typhoid fever was accredited with 4 cases 1 death, diphtheria 5 cases 1 death, and erysipelas 6 cases 1 death.

*Hospital Accommodation.*—The farmhouse at May Hills is still being used as a small-pox hospital. It has accommodation for 8 patients. The case referred to above was treated here. There is no hospital provision for ordinary infectious cases.

*Disinfection.*—A Delépine-Thresh steam disinfector is in use, 288 articles being disinfected during the year. There were 118 rooms fumigated.

*Water Supply* good, obtained from the Swineshaw reservoir.

*Sewerage, Scavenging, &c.*—Sewage is treated on the biological system. The Mersey and Irwell Joint Committee objected to several outlets by which crude sewage could be turned into the stream; some of these have been closed, but not all. The Authority carry out scavenging in a satisfactory manner.



*Sanitary Inspection.* — Bakehouses, slaughter-houses, cowsheds, lodging-houses, and factories have been visited, and, where necessary, cleansing and limewashing have been done. There is one underground bakehouse in use, but its condition is satisfactory to the officials. The Inspector (Mr. Taylor) reports that the work arising from nuisances in connection with dwellings, such as damp and defective roofs, dirty houses, defective water supplies, blocked drains in cellars and yards, privy and ashpit defects, and insanitary buildings has been considerable. Altogether 110 nuisances were abated.

**Moss Side.**—(Area in acres, 421; Estimated Population, 27,861).—*Medical Officer of Health.* S. HOLGATE OWEN, M.D.; *Salary*, £100 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	19·7 ..	20·5 ..	16·8
Death-rate .....	12·5 ..	14·1 ..	12·5
Zymotic death-rate .....	0·82 ..	1·39 ..	1·18
Phthisis       ,, .....	0·96 ..	1·17 ..	0·96
Respiratory   ,, .....	2·04 ..	2·19 ..	2·38
Rate of deaths under 1 year to 1,000 births .....	92 ..	124 ..	143

By the Manchester Corporation Act, 1904, the whole of this Urban District was transferred to the City of Manchester on November 9th, 1904, and thus ceased to form part of the Administrative County. The local Medical Officer of Health, a short time after amalgamation, handed, by request, all his official records and statistics to the City health officials, and consequently did not prepare an annual report. Dr. Niven, the Medical Officer of Health for Manchester, has very kindly supplied me with the usual mortality statistics, but they refer to the *whole* of the year.



As compared with the previous year the mortality statistics show reductions, and compare favourably with the averages of the preceding decennial period. The deaths from the principal zymotic diseases were as follow:—diarrhœa 9, measles 7, whooping cough 4, and scarlet fever, typhoid fever, and diphtheria 1 death each. One hundred and twelve notifications were received, viz., small-pox 3, scarlet fever 78, typhoid fever 8, diphtheria 18, erysipelas 4, and puerperal fever 1. By subscription and by joint interest the Baguley Sanatorium (Withington) was available, and during the year 60 cases were removed, viz., small-pox 3, scarlet fever 49, typhoid fever 2, and diphtheria 6.

**Much Woolton.**—(Area in acres, 792; Census Population, 4,731).—*Medical Officer of Health*, CHARLES V. VEREKER, L.R.C.P.I.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	28·3	23·8	27·1
Death-rate .....	16·0	12·2	15·2
Zymotic death-rate .....	3·38	1·90	1·88
Phthisis „ .....	1·05	0·84	1·50
Respiratory „ .....	2·74	2·74	2·93
Rate of deaths under 1 year to 1,000 births .....	111	97	125

The mortality statistics presented by Dr. Vereker are not so favourable as those of the previous year. The general death-rate and zymotic rate rose 3·8 and 1·48 per 1,000 of the population respectively, and the rate of deaths under one year to 1,000 births was 111 against 97. Six deaths were due to scarlet fever, 5 deaths to whooping cough, 4 deaths to diarrhœa, and 1 death to measles. Scarlet fever had a much increased prevalence, 90 cases being notified, against 4 cases

in 1903. The disease broke out in March, and fresh cases were reported in each month to the end of the year, June and July producing the largest number of attacks. Unrecognised cases assisted considerably in the spread of the disease, and very probably laundry work, derived from the adjoining districts, which is carried on in many of the smaller houses, was another source of danger. The schools were kept closed after the summer vacation for three weeks, and were thoroughly disinfected. The remaining notifications were diphtheria 5, and typhoid fever 1. The medical practitioners voluntarily notify cases of phthisis, and the Council offer in such cases to disinfect free of charge.

*Hospital Accommodation*—Two beds at the Whiston Sanatorium are reserved for the use of this district. Forty-three cases of scarlet fever were removed.

*Disinfection.* — Fraser's hot air apparatus provided. Eighty-five houses were fumigated after infectious disease.

*Water Supply* obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—The sewage of the eastern portion of the district flows to an irrigation farm, and that of the western portion to the Liverpool sewers at Garston. Scavenging is carried out satisfactorily by the Authority.

*Sanitary Inspection*—Bakehouses and slaughter-houses are described as "satisfactory," and dairies and cowsheds as "good." Over three hundred visits were paid to factories and workshops. Fifty-one privy middens were converted to the water-carriage system. The Inspector served 54 notices for the abatement of nuisances; in one instance legal proceedings had to be instituted before the notice was complied with. Sixty smoke observations were taken.

**Nelson (Borough).**—(Area in acres, 3,466 ; Estimated Population, 35,000).—*Medical Officer of Health*, A. P. MILLAR, M.D. ; *Salary*, £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	20·3 ..	22·0 ..	26·0
Death-rate .....	12·2 ..	12·3 ..	13·3
Zymotic death-rate .....	1·31 ..	0·80 ..	1·52
Phthisis „ .....	0·68 ..	0·77 ..	0·78
Respiratory „ .....	3·17 ..	2·94 ..	2·87
Rate of deaths under 1 year to 1,000 births .....	162 ..	139 ..	145

A decline in the birth-rate is again recorded, the rate for the year under review being 1·7 per 1,000 of the population below the rate of 1903, and 5·7 below the mean of the 10 years 1894-1903. The death-rate is practically the same as last year, and is 1·1 below the ten years' average. The zymotic, respiratory, and infant rates are not so favourable as in the previous year. In the first quarter of the year a severe epidemic of measles occurred ; during this period 20 out of a total of 23 deaths were registered. Amongst other measures to stay the spread of the disease school closure was adopted. In the second quarter there was a smart visitation of whooping cough ; this disease altogether caused 15 deaths. Diarrhœa contributed 3 fatalities. Small-pox gave rise to one case, the infection being caught at the sea-side. Prompt removal to hospital, re-vaccination of contacts, and thorough disinfection prevented any further spread. Scarlet fever had a diminished prevalence as compared with previous years ; 96 cases were notified, and 3 deaths resulted, against 210 cases 10 deaths last year, and 269 cases 12 deaths in 1902. Typhoid fever contributed 10 cases, diphtheria and membranous croup 15 cases 2 deaths, erysipelas 26 cases, and puerperal fever 2 cases.

*Hospital Accommodation*.—No provision has yet been made for the isolation of ordinary infectious cases. At Catlow two corrugated iron pavilions (32 beds) are kept in readiness for small-pox, and the case above referred to was isolated there.

*Disinfection*. — Steam apparatus available, in which 1,296 articles were disinfected. Rooms fumigated numbered 88.

*Water Supply* obtained from the Coldwell and Ogden reservoirs. The new reservoir in the Ogden Valley was brought into use during the year, and, notwithstanding the dry summer, all the houses within the water limits received a constant supply of good wholesome water.

*Sewerage, Scavenging, &c.*.—Scwage is treated in septic tanks, sprinkler filters, and sedimentation tanks. Additional filters have recently been constructed, and sludge ejectors fitted to sedimentation tanks. Scavenging and cleansing are carried out satisfactorily by the Corporation staff, refuse being taken to the destructor. The paving of thirty-one streets has just been completed at a cost of nearly £13,000, and notices have been issued regarding the paving of 47 other streets, the cost of which is estimated at £12,000.

*Sanitary Inspection*.—Bakehouses, two of which are underground, were found to be in good order, and the 20 private slaughter-houses “very fair.” There is only one common lodging-house in the Borough, and that is well conducted. Dairies and cowsheds—periodically inspected—are reported as fair. Ninety-eight inspections of factories and workshops revealed 21 defects. One summons was issued for exposing for sale meat in a state unfit for food, and a fine of 10s. and costs imposed. The Inspector (Mr. Priestley) served 164 notices for the abatement of nuisances.

**Newton-in-Makerfield.**—(Area in acres, 3,105 ; Estimated Population, 18,178).—*Medical Officer of Health*, HAROLD E. WATKINS, M.R.C.S. ; *Salary*, £75.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	31·9 ..	34·8 ..	34·7
Death-rate .....	15·7 ..	16·2 ..	15·4
Zymotic death-rate .....	3·35 ..	2·59 ..	2·13
Phthisis „ .....	0·93 ..	1·01 ..	0·78
Respiratory „ .....	3·57 ..	3·38 ..	3·19
Rate of deaths under 1 year to 1,000 births .....	174 ..	137 ..	146

A decline in the birth-rate as compared with last year, equal to 2·9 per 1,000 of the population, is accompanied by a reduction in the death-rate of 0·5. The zymotic and infant rates are, however, less favourable, the main factor in these increases being the large number of deaths from diarrhœa and whooping cough, viz., 31 and 18 respectively, against 9 and 6 deaths in the previous year. In the third quarter there was a severe epidemic of diarrhœa, and whooping cough prevailed considerably in the first quarter. Measles gave rise to 4 deaths, as compared with 19 deaths in 1903. Last year Dr. Watkins advocated the inclusion of measles in the list of notifiable diseases, but after correspondence with the Local Government Board, and interviews with Medical Officers of Health of large towns, he came to the conclusion that its notification was not desirable at present, owing to the many difficulties in effectually dealing with this disease. Small-pox accounted for one case only. Scarlet fever existed practically in epidemic form throughout the year; altogether 104 cases were notified, and 4 deaths resulted. Last year 90 attacks took place, with 5 deaths. Typhoid fever was the cause of 8 cases 1 death, diphtheria and membranous croup 14 cases 3 deaths, erysipelas 24 cases, and puerperal fever



1 case. In addition, 22 cases of pulmonary phthisis and 32 cases of chicken-pox were voluntarily reported. The notification of the latter disease lapsed on December 31st. Schools were closed at various times on account of the prevalence of scarlet fever, measles, whooping cough, and chicken-pox. The arrangement made with the Public Health Laboratory, Manchester, for the bacteriological examination of morbid products continues as before, and is of great service in assisting diagnosis in doubtful cases.

*Hospital Accommodation.*—The conditions relating to the isolation of cases of infectious diseases are the same as last year. Small-pox cases are taken to the Liverpool Corporation hospital at Fazakerley, and scarlet and typhoid fever cases to Warrington hospital “when there is room.” Only 21 cases were removed during 1904, viz., small-pox 1, scarlet fever 17, and typhoid fever 3. The present accommodation is entirely inadequate, and steps are being taken to secure a suitable site on which to erect an isolation hospital for the district.

*Disinfection* is carried out by means of formalin and sulphur. Six schools and 320 rooms were fumigated.

*Water Supply* is obtained from deep borings in sandstone. The water is of good quality, and sufficient in quantity.

*Sewerage, Scavenging, &c.*—Sewage is treated in bacterial contact beds. At the request of the Royal Commission on Sewage Treatment the Council have undertaken to carry on the works as the Commission suggested until their investigations are complete, but the local Medical Officer of Health points out that, notwithstanding the promise given, the existing method of sewage treatment will ere long have to be revised. The water courses in the district are still much polluted with sewage. The Council undertake scavenging.



*Sanitary Inspection.*—Four blocks of property, numbering 38 houses, formed the subject of a special report, with the result that three blocks were considerably improved, and the other, a block of six cottages, was demolished. Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds—under constant supervision—are on the whole satisfactory. In one instance a farm dairy was found to be ventilated and lighted from the side overlooking a pigsty, but this has now been remedied. No serious nuisance has arisen in connection with factories and workshops. In a few instances privies have been converted to the water-carriage system. The Inspector (Mr. Asheroft) served 207 notices, and as a result 420 nuisances were abated.

**Norden.**—(Area in acres, 5,358 ; Census Population, 3,907).

—*Medical Officer of Health*, W. HIRST BATEMAN, M.B. ;  
*Salary*, £30.

Per 1,000 of Population.	1904.		1903.		Mean of 10 years, 1894-1903.
Birth-rate .....	19·4	..	20·8	..	20·3
Death-rate .....	15·3	..	16·5	..	14·6
Zymotic death-rate .....	1·53	..	0·76	..	1·08
Phthisis       ,,       .....	1·02	..	0·76	..	0·85
Respiratory   ,,       .....	3·58	..	2·29	..	2·36
Rate of deaths under 1 year					
to 1,000 births .....	157	..	195	..	122

As compared with last year the birth and death rates are reduced 1·4 and 1·2 per 1,000 of the population respectively. The infantile mortality is more favourable than in 1903, but the zymotic rate has increased. Measles was very prevalent during September and October, and in consequence one school, which a very large majority of the children affected had been attending, was closed for a fortnight. Measles and diarrhoea each contributed 1 death. Scarlet fever gave rise to 5 cases, diphtheria and membranous croup 15 cases 4 deaths, and erysipelas 1 case.

*Hospital Accommodation.*—A farmhouse at Cheesden Top has been converted into a small-pox hospital. There is no provision for other diseases.

*Disinfection.*—No apparatus.

*Water Supply* obtained chiefly from the Middleton and Heywood Joint Water Board. In a few instances supplies from private sources are relied upon.

*Sewerage, Scavenging, &c.*—New outfall works—septic tanks and bacterial filters—have been completed. The Authority carry out scavenging in a satisfactory manner.

*Sanitary Inspection.*—The condition of bakehouses and slaughter-houses is fairly good, but dairies and cowsheds are not yet satisfactory. There is only one lodging-house, and this has caused considerable trouble, as it is not suitable for its purpose. Factories and workshops have been inspected; two notices were served as a result of these inspections, and the defects referred to were remedied. Only one notice was required for nuisance abatement. Four smoke observations were taken.

**Ormskirk.**—(Area in acres, 574; Census Population, 6,857).

—*Medical Officer of Health*, WILLIAM ANDERTON, F.R.C.S.E.;

*Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	31·9 ..	28·7 ..	33·7
Death-rate .....	18·9 ..	17·6 ..	21·3
Zymotic death-rate .....	1·60 ..	1·02 ..	1·81
Phthisis „ .....	1·16 ..	1·16 ..	1·58
Respiratory „ .....	4·81 ..	3·06 ..	5·22
Rate of deaths under 1 year to 1,000 births .....	132 ..	121 ..	153

The mortality statistics presented by Dr. Anderton are

less favourable than those of the preceding year, but are below the averages of the ten years 1894-1903. More than twenty-five per cent. of the total deaths took place in the courts and alleys, and two-thirds of these were amongst children 5 years of age and under. The urgent necessity for improving the sanitary condition of these places is again referred to. In many courts the houses are placed so closely together that there is deficient air and ventilation, so much so that even the atmosphere outside the dwellings becomes impure and stagnant. The paving is very unsatisfactory, and the numerous depressions and ruts allow the collection of filth and debris of all kinds, which undergoes putrefaction. The proposed improvement scheme is for the present in abeyance, owing to certain conditions imposed by the Local Government Board. As a condition to their consent to a loan the Board demand that accommodation for the inhabitants displaced, to the extent of at least 70, be provided. The Council could not see their way to build sufficient houses for this purpose, and private enterprise has so far not stepped into the breach. The district has, during the year, been comparatively free from the diseases compulsorily notified, but widespread epidemics of measles and mumps have prevailed. Only 3 deaths were directly attributed to measles, but no doubt this disease was indirectly the cause of a large number of deaths. Diarrhoea contributed 5 fatalities, and whooping cough 2. Scarlet fever caused 9 cases, typhoid fever 3 cases (1 fatal), diphtheria and membranous croup 2 cases, erysipelas 9 cases, and puerperal fever 1 case.

*Hospital Accommodation* is provided jointly with Lathom and Burscough at Green Lane for ordinary infectious diseases, and at Burscough for small-pox. Eight cases of scarlet fever were removed.

*Disinfection.*—The steam apparatus was used 10 times, and 16 houses were stoved.

*Water Supply* obtained from deep sandstone wells, the yield and quality of which continue to be satisfactory.

*Sewerage, Scavenging, &c.*—Sewage is dealt with by broad irrigation, 30 acres of land being available. Flushing of sewers by water carts takes place regularly, but Dr. Anderton recommends the provision of automatic flushing chambers and the erection of more ventilating shafts. Scavenging receives attention at the hands of the Authority. The question of providing a refuse destructor is now engaging the Council's attention.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, common lodging-houses, and dairies and cowsheds have all been regularly inspected, and the accommodation has given satisfaction. No special comment is required as to factories and workshops, as on the whole these places are well conducted. A number of wet ashpits exist, which are "undoubtedly a serious menace to the public health." Only three notices were required for the abatement of nuisances.

**Orrell.**—(Area in acres, 1,617; Census Population, 5,436).

—*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.;

*Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	36·4	36·0	39·4
Death-rate .....	17·8	14·7	17·9
Zymotic death-rate .....	4·41	2·75	2·59
Phthisis       ,, .....	0·55	nil.	0·90
Respiratory   ,, .....	4·04	3·31	3·22
Rate of deaths under 1 year to 1,000 births .....	151	142	143

The mortality statistics for the period under review are considerably in excess of those of the preceding year. The

general death-rate rose 3·1 per 1,000, the zymotic rate 1·66, and the infantile mortality was less favourable. The increases were due principally to the deaths from diarrhœa (14), and whooping cough (6). Last year these diseases contributed 9 deaths and 1 death respectively. Small-pox gave rise to 3 cases, two in East Ward and one in West Ward. Two of the persons attacked were removed to hospitals outside the district. The remaining notifications were:—scarlet fever 12, typhoid fever 5 (2 fatal), diphtheria and membranous croup 12 (2 fatal), and erysipelas 13.

*Hospital Accommodation* nil. Orrell is combined under an Order of the County Council with neighbouring Authorities for the purpose of providing a joint small-pox hospital. One case of small-pox was removed to the Pemberton small-pox hospital, and one to the tent hospital at Upholland.

*Disinfection*.—No apparatus. Seventeen houses fumigated with sulphur.

*Water Supply* “good and continuous.”

*Sewerage, Scavenging, &c.*—Sewage is conveyed to the Wigan Corporation sewer at Gathurst. Scavenging is efficiently performed by the Authority.

*Sanitary Inspection*.—A certain amount of old property still exists, especially in West Ward, where unpaved yards are often found in a dangerous condition. Bakehouses, slaughterhouses and cowsheds have been, from time to time, inspected and offer no particular cause for complaint. There is still, however, in reference to shippens, a disposition to insufficient ventilation, although in recent years there has been a decided improvement in this respect. As a result of the inspection of factories and workshops several minor improvements have been effected. Nuisances abated numbered 74, and notices served 18.



**Oswaldtwistle.**—(Area in acres, 4,885; Estimated Population, 14,600).—*Medical Officer of Health*, A. E. TOWNLEY, M.B.; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	21·9 ..	26·8 ..	27·7
Death-rate .....	18·7 ..	15·2 ..	16·2
Zymotic death-rate .....	2·67 ..	0·61 ..	1·60
Phthisis       ,, .....	0·95 ..	0·75 ..	0·77
Respiratory   ,, .....	4·04 ..	2·73 ..	3·67
Rate of deaths under 1 year to 1,000 births .....	190 ..	132 ..	166

The birth-rate declined 4·9 per 1,000 of the population as compared with last year, while the death-rate was increased 3·5. The zymotic rate rose 2·06, and the rate of deaths under one year to 1,000 births was 190 against 132. During the early part of the year a severe epidemic of measles broke out, and caused a heavy mortality amongst children; in all 27 deaths were due to this cause. Amongst other measures to curtail the spread of the disease, school closure was adopted. Diarrhoea was accredited with 3 deaths and whooping cough 2 deaths. Forty-two notifications were received, viz., scarlet fever 16, typhoid fever 14 (7 fatal), diphtheria 2, membranous croup 1, erysipelas 8, and puerperal fever 1.

*Hospital Accommodation.*—A farmhouse has been converted into a small-pox hospital of 10 beds.

*Disinfection.*—Steam apparatus available.

*Water Supply* good, obtained from moorland in the neighbourhood.

*Sewerage, Scavenging, &c.*—At the sewage works there are five tanks, three of which are used as septic tanks, and two as storm tanks. The sewage is passed from the septic tanks upon nine feet deep filters provided with revolving



sprinklers, the final treatment being upon the land filter areas. Rapid progress has been made in laying down main and intercepting sewers, and this has resulted in the streams of the district being freed from sewage pollution. Scavenging is carried out by the employees of the Council.

*Sanitary Inspection.*—The sanitary condition of dwellings in certain parts of the district has been under consideration with a view to taking action, particularly in the case of back-to-back premises. Seven houses unfit for human habitation were closed. Bakehouses were found satisfactory, with the exception of one underground which was condemned. Sanitary improvements continue to be made at a number of the farms; there is a marked improvement as regards cleanliness, and the drainage, lighting, and ventilation are much better than formerly. Limewashing at factories and workshops has been attended to where required, and in two cases the closet accommodation was re-modelled. Considerable progress has been made in altering privies, and there are now 1,884 water-closets in use. The Inspector (Mr. Hunter) served 183 notices, secured the abatement of 285 nuisances, took 12 smoke observations, &c.

**Padiham.**—(Area in acres, 970; Estimated Population, 12,472).—*Medical Officer of Health*, W. SMITHIES, L.R.C.P.; *Salary*, £35 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·2	27·8	26·5
Death-rate .....	16·8	15·5	16·9
Zymotic death-rate .....	1·68	0·65	1·92
Phthisis „ .....	0·80	0·88	0·89
Respiratory „ .....	3·68	2·01	3·09
Rate of deaths under 1 year to 1,000 births .....	222	168	185

The most noticeable feature of the statistics for the year

under review is the excessive infantile mortality, which rose from 168 per 1,000 births in 1903 to 222. The principal causes of this alarming mortality are, says Dr. Smithies (1) the mothers working for too long a period in the mills during pregnancy, (2) the very prevalent nursing-out system, and (3) indifferent feeding of infants. Measles, the cause of 13 deaths, was prevalent in August, and again in November. In each month schools were closed. Diarrhœa and whooping cough each contributed 3 deaths. Small-pox gave rise to 2 cases, the first in May, a man staying at a common lodging house. He was immediately removed to hospital, and the necessary sanitary precautions carried out. The second attack took place in December—an insurance agent who had probably contracted the disease in Burnley, where the disease was then prevalent. Removal to hospital took place, and there was no further spread. Scarlet fever was responsible for 11 cases 1 death, typhoid fever 4 cases 1 death, diphtheria 10 cases, and erysipelas 17 cases.

*Hospital Accommodation* is available at the Burnley, &c., joint hospitals, both for small-pox and the ordinary infectious diseases. The two cases of small-pox were removed, and also 5 cases of scarlet fever.

*Disinfection.*—Houses are fumigated either with sulphur or formalin.

*Water Supply*, obtained from the Pendle Range, is excellent and abundant.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and irrigation. The Authority carry out scavenging in a satisfactory manner. The refuse destructor has been a great acquisition.

*Sanitary Inspection.* — Bakehouses continue in good order, and slaughter-houses, dairies and cowsheds are also

well kept. The lodging-houses are registered and comply with the existing regulations. One hundred and eleven inspections of factories and workshops revealed 7 defects. The Inspector served 127 notices for the abatement of nuisances.

**Pemberton.**—(Area in acres, 2,895 ; Estimated Population, 22,722).—*Medical Officer of Health*, KENNETH FRASER, M.B. ; *Salary*, £60.

Per 1,000 of Population.	1904. (to Nov. 8th.)	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	35·7	38·6	38·6
Death-rate .....	21·9	20·2	18·9
Zymotic death-rate .....	5·24	4·91	3·15
Phthisis „ .....	1·80	1·02	0·84
Respiratory „ .....	3·80	3·48	3·53
Rate of deaths under 1 year to 1,000 births .....	230	182	178

By the Local Government Board's Provisional Orders Confirmation (No. 13) Act, 1904, this district was, on the 9th of November, 1904, transferred to the County Borough of Wigan, and thus ceased to form part of the Administrative County.

Dr. Fraser has prepared a report giving the statistics for the whole year, and also for the period ending November 8th. For the purpose of this summary I propose to refer briefly to the figures obtained for the period prior to incorporation. All the mortality averages were very high, and unsatisfactory, and considerably above the mean of the preceding decennial period. Diarrhœa gave rise to an excessive mortality, 67 deaths taking place in the ten months. Measles caused 13 deaths and whooping cough 11 deaths. Small-pox was the cause of 12 cases, scarlet fever 76 cases 3 deaths, typhoid fever 18 cases 5 deaths, diphtheria and membranous croup 14 cases 3 deaths, erysipelas 22 cases 1 death, puerperal

fever 2 cases, and continued fever 1 case. Eighteen cases were isolated in the hospital, viz., small-pox 12, typhoid fever 5, and scarlet fever 1. The Inspector secured the abatement of 410 nuisances, served 100 notices, &c.

**Poulton-le-Fylde.**—(Area in acres, 915 ; Estimated Population, 2,250).—*Medical Officer of Health*, JAMES ANDERSON, M.B. ; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 4 years, 1900-1903.
Birth-rate .....	21·7 ..	30·1 ..	27·3
Death-rate .....	13·7 ..	10·3 ..	12·6
Zymotic death-rate .....	1·33 ..	0·44 ..	0·33
Phthisis „ .....	0·88 ..	1·34 ..	0·86
Respiratory „ .....	0·88 ..	nil. ..	0·11
Rate of deaths under 1 year to 1,000 births .....	163 ..	59 ..	105

The statistics for the year under review are not so favourable as in 1903. The birth-rate is reduced 8·4 per 1,000 of the population, with an advance in the death-rate equal to 3·4. The zymotic rate is increased 0·89, and the infantile mortality is almost trebled. No deaths were recorded from measles, whooping cough, or diarrhœa. Scarlet fever was the cause of 6 cases, typhoid fever 3 cases 2 deaths, erysipelas 2 cases, and diphtheria 11 cases 1 death. The latter disease, together with sore throat, was responsible for much sickness, many cases not being medically attended. There is every reason to believe that aggregation of infected children in the National School caused the spread of the disease. The school was closed for a short period, and certain sanitary improvements carried out.

*Hospital Accommodation* is provided at Moss Side (Fylde Joint) for ordinary infectious diseases, and at Elswick for small-pox. Six cases were removed, viz., diphtheria 4, typhoid fever 1, and erysipelas 1.

*Disinfection.*—No apparatus.

*Water Supply* obtained from the Fylde Water Board.

*Sewerage, Scavenging, &c.*—Sewage flows by gravitation into the tidal portion of the River Wyre at Skippool. The sewers are flushed and cleaned out once a fortnight in the summer, and monthly in winter. The water courses are now much more satisfactory than formerly, but there is “still room for improvement.” Scavenging is carried out by contract. The Inspector (Mr. Wilson) recommends the Council to undertake this work.

*Sanitary Inspection.*—A number of cottages have been removed as insanitary, others are shortly to be demolished. Bakehouses, slaughter-houses, shippons, and public auction marts have, on the whole, been kept in good condition. A number of privies were converted to the water-carriage system. Fifty-two notices were served, and as a result 44 nuisances were abated.

**Preesall-with-Hackinsall.**—(Area in acres, 3,232; Estimated Population, 1,500).—*Medical Officer of Health*, W. H. ROBINSON, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 4 years, 1900-1903.
Birth-rate .....	29·3	23·0	26·7
Death-rate .....	18·0	12·8	12·2
Zymotic death-rate .....	0·66	0·67	1·70
Phthisis „ .....	0·66	0·67	0·51
Respiratory „ .....	0·66	1·35	1·94
Rate of deaths under 1 year to 1,000 births .....	90	88	55

As compared with last year the birth and death rates show increases of 6·3 and 5·2 per 1,000 of the population. The zymotic, phthisis, and infant rates remain practically the same.



Only 1 death was ascribed to the principal zymotic diseases (diarrhœa). Nineteen notifications were received, viz., scarlet fever 8, typhoid fever 2, diphtheria 4, and erysipelas 5.

*Hospital Accommodation* for ordinary infectious cases nil; for small-pox the Elswick hospital is available.

*Disinfection*.—Apparatus will shortly be provided.

*Water Supply* is at present obtained from wells and rain water tanks. The utmost endeavours are being made to obtain a supply of water from the Fylde Water Board.

*Sewerage, Scavenging, &c.*—For some years attention has been drawn to the unsatisfactory state of the district as regards drainage, &c. In May the Local Government Board sent one of their Inspectors to visit the district, and his report contained a very severe criticism of its sanitary administration. Since this report, Dr. Robinson says, the Council have made some effort to improve certain matters, but he has again to point out that they “do not seem to recognise the dormant danger to the inhabitants and visitors which is present, and may at any time become an active source of epidemic disease, arising from the want of sewerage and drainage.” The Authority undertake refuse removal in the populous parts of the district.

*Sanitary Inspection*.—House accommodation is adequate, but ventilation not always satisfactory. The two slaughterhouses are of modern type, some needed improvements having recently been made. Dairies and cowsheds are not inspected at present, but regulations are shortly to be adopted. Forty inspections of factories and workshops are reported upon. The Inspector served 13 notices for nuisance abatement.

I append a brief extract from the Report of the Local Government Board Inspector (Dr. J. Spenceer Low):—

“This district was constituted an Urban District more



than four years ago, but there is no evidence that material progress has been made towards the improvement in the sanitary circumstances so hopefully foreshadowed in 1899. It is, indeed, difficult to conceive that the conditions of the district, regarded from a sanitary standpoint, can have been appreciably worse at that time than they are to-day. The water supply, unwholesome in quality and of insufficient quantity; the faulty conditions of sewerage, drainage, and disposal of sewage; the serious nuisances, many of them in relation with unsatisfactory disposal and removal of excrement and refuse, in the near neighbourhood of the great majority of dwellings, the neglected state of cowsheds; the entire absence of provision for the isolation of cases of infectious disease other than small-pox, and of any trustworthy means of disinfection; the numerous infringements of the bye-laws in force in the district—all bear testimony to the failure of the Urban District Council to perform the duties which have been entrusted to them as guardians of the public health.”

Dr. Speneer Low concludes his report with the following recommendations:—

- 1.—“The first and most urgent need for the district is the provision of an adequate supply of wholesome water.
- 2.—“The faulty conditions of drainage, sewerage, and sewage disposal should be remedied.
- 3.—“A house-to-house visit of the whole district should be made, and the innumerable nuisances at present existing should be suitably dealt with.
- 4.—“Systematic removal of excrement and refuse, and the emptying of cesspools at suitable intervals, should be arranged for where necessary.
- 5.—“The cowhouses should be registered and regularly inspected, and the other provisions of the Dairies, Cowsheds, and Milkshops Order should be enforced.

6.—“ Arrangements should be made, preferably in combination with a neighbouring Authority, for the provision of efficient means for isolating cases of infectious diseases other than small-pox, and for the provision of a steam disinfecter.

7.—“ The existing bye-laws should be strictly enforced.”

**Prescot.**—(Area in acres. 297; Estimated Population, 7,700).—*Medical Officer of Health*, EGERTON F. HALL, M.D.; *Salary*, £35.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	35·7	39·2	38·4
Death-rate .....	20·0	24·3	19·3
Zymotic death-rate .....	3·37	5·60	2·85
Phthisis ..	1·42	1·27	0·94
Respiratory ..	3·37	5·09	3·75
Rate of deaths under 1 year to 1,000 births .....	174	204	161

The mortality statistics remain high and cannot be considered satisfactory, although they show an improvement on last year. They do not compare favourably with the mean of the ten years 1894-1903. Diarrhoea proved very troublesome, and caused 18 deaths. Whooping cough gave rise to 6 fatalities, and diphtheria 2. Notifications received amounted to 50, viz., scarlet fever 26 (some of which were imported and then spread through school influence), typhoid fever 8, diphtheria and membranous croup 7, erysipelas 7, and puerperal fever 2.

*Hospital Accommodation.*—One bed is reserved for the use of this district at the Whiston sanatorium. Two cases of scarlet fever were removed.

*Disinfection.*—Thirty-five houses were fumigated after infectious disease.

*Water Supply* obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Several improvements have recently been effected at the sewage farm. Scavenging is carried out under the supervision of the Nuisance Inspector.

*Sanitary Inspection.*—The work of removing two insanitary areas is now very much advanced. Tho whole of the houses in No. 1 Area have been demolished, and good progress is being made in clearing No. 2 Area. During the last three years 38 houses have been erected at a cost of £5,050 to take the place of the insanitary property referred to. Bakehouses and dairies and cowsheds are, on the whole, in good condition, several minor improvements having been made during the year. The Inspector (Mr. Norris) reports on the sanitary work accomplished. This included 26 drains cleansed or repaired, 9 privies converted to water closets, several ashpits remodelled, &c.

**Prestwich.**—(Area in acres, 2,494; Estimated Population, excluding Asylum, 10,485).—*Medical Officer of Health*, FRED STEPHENSON, L.R.C.P.E.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	20·9 ..	24·3 ..	23·4
Death-rate .....	12·5 ..	14·0 ..	13·9
Zymotic death-rate .....	0·95 ..	1·26 ..	1·66
Phthisis „ .....	0·76 ..	1·06 ..	1·11
Respiratory „ .....	2·76 ..	2·62 ..	2·43
Rate of deaths under 1 year to 1,000 births .....	81 ..	92 ..	112

A birth-rate 3·4 per 1,000 less than last year is accompanied by a death-rate 1·5 below the rate of 1903, and 1·4 below the mean of the 10 years 1894-1903. The zymotic, phthisis, and infant rates are also lower than those of the previous year. Measles appeared in epidemic form in November,

but fortunately only 2 deaths resulted. Leaflets were issued showing the precautions to be taken, and two schools were closed. Diarrhœa was the cause of 2 deaths, and whooping cough 1 death. Two cases of small-pox were notified—the first in September, the infection being traced to an adjacent town. The second case was a nurse in the small-pox hospital situated in the district. Scarlet fever had an increased prevalence, 57 cases being reported with 3 deaths, against 24 cases 2 deaths in 1903. Typhoid fever was responsible for 4 cases 1 death, diphtheria 9 cases 1 death, erysipelas 5 cases, and puerperal fever 1 case. The arrangement for examinations of specimens in suspected cases of diphtheria and typhoid fever continues.

*Hospital Accommodation.*—The Salford Corporation small-pox hospital is situated in this district, and the Council have an arrangement for the treatment of local cases. One case was removed, the other case developed in the hospital. An agreement also exists with the same Corporation for the reception of Prestwich cases into the Ladywell sanatorium at Eccles. Thirty-seven cases were treated, viz., scarlet fever 34, diphtheria 2, and typhoid fever 1.

*Disinfection.* — No proper appliances. Houses are fumigated with sulphur.

*Water Supply* of the villages of Prestwich, Rooden Lane, and Rainsough is derived from the Corporations of Manchester and Bury. The Manchester water is excellent, and that from Bury has much improved of late, but still would do with more filtration. Simister Lane district is supplied from the Heywood Corporation, this water giving every satisfaction.

*Sewerage, Scavenging, &c.*—Sewage is treated at two works, viz., “Clough, and George Street,” by bacteria beds

and land filtration. The Mersey and Irwell Joint Committee have on several occasions complained of unsatisfactory effluents. The main sewers have been flushed and disinfected three times during the year, and the manholes thoroughly cleansed. Scavenging receives attention at the hands of the Authority.

*Sanitary Inspection.*—Twelve bakehouses are at present on the register, including two underground; all are kept so as to comply with the Act. Slaughter-houses, and dairies and cowsheds are in good condition. Forty-nine inspections of factories and workshops revealed 11 defects which received attention. Thirty-one water-closets have been substituted for 26 privies, one pail, and 16 ashpits. The Inspector secured the abatement of 233 nuisances, but it was only necessary to serve 25 statutory notices. Twenty-five smoke observations were taken. Meteorological statistics are appended.

**Radcliffe.**—(Area in acres, 3,098; Estimated population, 25,500). — *Medical Officer of Health*, WILLIAM GILL, L.R.C.P.; *Salary*, £60 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	24·2 ..	25·2 ..	27·3
Death-rate .....	19·6 ..	17·3 ..	17·6
Zymotic death-rate .....	2·94 ..	1·76 ..	2·37
Phthisis „ .....	1·17 ..	0·86 ..	0·99
Respiratory „ .....	3·88 ..	3·45 ..	3·83
Rate of deaths under 1 year to 1,000 births .....	197 ..	150 ..	181

The mortality statistics presented by Dr. Gill do not compare favourably with last year or the mean of the preceding decade. The general death-rate was 2·3 per 1,000 higher than in 1903; the zymotic rate was increased 1·18,



and the rate of deaths of infants under one year rose from 150 to 197. Referring to the latter mortality the usual remarks are made as to improper feeding, unsuitable clothing, and undue exposure. Nursing classes are being carried on under the Technical Instruction Committee, and every effort should be made to encourage mothers to take advantage of the instructions given, and by gaining knowledge on the important matter of care of young children—assist in reducing the “slaughter of the innocents.” The birth-rate was again reduced, and was the lowest recorded for many years. This rate varied from 26·2 in Stand Lane Ward, to 25·6 Black Lane Ward, 24·8 Radeliffe Bridge Ward, and 20·3 Radeliffe Hall Ward; the death-rates of these wards were 23·5, 15·7, 19·8, and 21·1 respectively. Diarrhœa gave rise to 31 deaths against 13 in the previous year, and measles contributed 16 deaths against 14 in 1903. In endeavouring to check the spread of the latter disease the infant schools in Radeliffe Hall Ward were closed for a short period. Whooping cough caused 5 fatalities. Scarlet fever had an increased prevalence, 300 cases being notified with 13 deaths, as compared with 129 cases 5 deaths in the previous year. The disease was of a mild type, and this fact no doubt partly accounts for the large number of attacks, as the fever was often not recognised by parents until others had been infected. Another cause of the spread was the visiting of friends and relatives at infected houses. Typhoid fever was responsible for 26 cases 6 deaths. As in previous reports Dr. Gill suggests, as a means of reducing the prevalence of this disease, that ventilating shafts to the sewers be more extensively employed; that manholes be cleaned periodically, and effectively; and, above all, that the water-carriage system be substituted in all possible cases for the midden privies. To the number of midden privies in Stand Lane Ward is attributed the fact that more cases were notified from that ward than from all the other wards put together.



Diphtheria, associated with membranous croup, was accredited with 35 cases 4 deaths, erysipelas 47 cases 1 death, and puerperal fever 1 case (fatal).

*Hospital Accommodation.*—This district is combined with the County Borough of Bury and other adjacent districts for the provision and maintenance of hospitals for the reception of cases of infectious diseases. Seventy cases were removed to the Florence Nightingale hospital (Bury), viz., scarlet fever 57, diphtheria 10, and typhoid fever 3. The joint hospital at Ainsworth is available for small-pox.

*Disinfection.*—No information as to disinfecting apparatus (if any). Three hundred and sixty-two houses were fumigated after infectious disease.

*Water Supply.*—Complaints are still being made with regard to the water. The improvements promised by the Joint Water Board have not as yet shown any practical result.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. In July the Mersey and Irwell Joint Committee instituted proceedings against the Council for offences against their special Act, and as a result plans have been prepared for the extension of the sewage works, the Court allowing until June, 1905, for the completion of the proposed alterations. Complaints are constantly being made as to offensive emanations from untrapped street gullies and sewer manholes. The work of scavenging is more systematically attended to than formerly.

*Sanitary Inspection.*—Dr. Gill reports that the burial places in connection with the Churches are becoming a great danger to the public health. Bakehouses (26), slaughterhouses (17), and dairies and cowsheds (33) have been inspected, and, on the whole, were found clean. Factories and workshops also were periodically examined, and in a few instances

structural defects of sanitary conveniences required alteration. The markets received constant attention, and several seizures of unsound food were made. During the year 105 privies underwent conversion to the water-carriage system. Thirty-five canal boats were visited, four infringements of the Act being discovered. The Inspector (Mr. Smith) reports on the work accomplished in his department, including 1,275 inspections of premises respecting nuisances, 246 notices served, 30 smoke observations, &c.

**Rainford.**—(Area in acres, 5,877 ; Estimated Population, 3,322).—*Medical Officer of Health.* FRANK PROSSER, M.B. : *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·4	.. 33·6	.. 29·6
Death-rate .....	12·9	.. 11·4	.. 14·5
Zymotic death-rate .....	1·80	.. 0·60	.. 1·50
Phthisis „ .....	nil	.. 1·20	.. 1·06
Respiratory „ .....	2·10	.. 2·40	.. 2·49
Rate of deaths under 1 year to 1,000 births .....	68	.. 98	.. 113

A decline in the birth-rate as compared with last year, equal to 7·2 per 1,000 of the population, is accompanied by an increase in the death-rate of 1·5 per 1,000. The zymotic rate is also higher than last year, but the rate of deaths under one year to 1,000 births shows a gratifying diminution, and is the lowest recorded for the district. Whooping cough caused 3 deaths and diarrhoea 1 death. Two cases of small-pox occurred during the year and were both removed to hospital, the disease being brought into the district by a navvy on tramp. Scarlet fever gave rise to 15 attacks with 1 death, the cases being scattered throughout the district. Dr. Prosser says that “this disease continuing year after year without any marked spreading in the locality must be

brought about by some of the many travellers, collectors, &c., who regularly visit the houses in the district." Typhoid fever contributed 5 cases 1 death and erysipelas 6 cases.

*Hospital Accommodation.*—A cottage hospital is provided with four beds : the two cases of small-pox were treated there.

*Disinfection.*—No apparatus : houses are fumigated with sulphur.

*Water Supply* good, obtained from the St. Helens Corporation.

*Sewerage, Scavenging, &c.*—The sewage of the district is turned into a brook. The householders are responsible for scavenging, which, as might be expected, is not satisfactorily carried out. The work would be more efficiently performed if undertaken by the Authority.

*Sanitary Inspection.*—Bakchouses are in good order, and the only slaughter-house in the district is satisfactory. Dairies and cowsheds—subject to regulations—and factories and workshops are, on the whole, well kept. Only two written notices were required for nuisance abatement, most of the defects being remedied after verbal notice.

**Ramsbottom.**—(Area in acres, 6,424 ; Census Population, 15,920).—*Medical Officer of Health*, WILLIAM DEANS, M.B. ; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	20·1 ..	23·2 ..	22·5
Death-rate .....	15·1 ..	14·8 ..	14·7
Zymotic death-rate .....	1·19 ..	1·31 ..	1·34
Phthisis „ .....	1·25 ..	2·13 ..	1·29
Respiratory „ .....	2·19 ..	2·76 ..	2·96
Rate of deaths under 1 year to 1,000 births .....	112 ..	110 ..	128

The birth-rate shows a decline of 3·1 per 1,000 of the

population as compared with last year, and with the exception of 1900 is the lowest recorded during the past 10 years. The death-rate is fractionally higher than 1903, but the zymotic rate is slightly lower and is also below the 10 years' average. Measles, the cause of 4 deaths was prevalent during the month of October, and necessitated school closure. Whooping cough was responsible for 7 deaths and diarrhœa 1 death. Small-pox gave rise to 8 cases and 1 death. The first outbreak occurred in July, when three persons were attacked—all workers in the paper mill. The second outbreak occurred in August at Summerseat, when five members of a family of seven were affected, and one died. All the cases were promptly removed to hospital, and every precaution taken to prevent the further spread of the disease. Dr. Dean says: "with regard to the value of re-vaccination, it may be noted that in the outbreak in August, the mother and eldest daughter who were vaccinated in infancy, were insusceptible to re-vaccination, but though exposed for a period of 14 days or more to the disease—owing to ignorance as to its nature—escaped infection." Scarlet fever caused 17 cases, a decrease of 21 cases as compared with last year, typhoid fever 22 cases 6 deaths, diphtheria 2 cases, and puerperal fever 3 cases (1 fatal).

*Hospital Accommodation* is provided by the Bury, &c., Conjoint Board. During the year 19 cases were removed, viz., small-pox 8, scarlet fever 2, and typhoid fever 9.

*Disinfection.*—No proper appliances. Infected houses are disinfected with formaldehyde and sprayed.

*Water Supply* is derived from the Bury and District Joint Water Board, and is said to be "fairly good." Owing to the exceedingly dry summer it was necessary to exercise the strictest economy, the supply of water being low. Power has been obtained, and work is about to commence, whereby a supply will be obtained from Dearden Brook.

*Sewerage, Scavenging, &c.*—The new sewage works are now in operation. The main sewers have been extended, and repaving of roads, streets, &c., extensively carried out. Scavenging is performed partly by the Authority and partly by contract in a satisfactory manner, with the exception of some of the outlying districts, such as Chatterton and the vicinity of Brooksbottoms and Summerseat, where in wet weather the accumulation of mud is such as to “render it unhealthy.” The provision of a refuse destructor has been recommended, but a new tip has now been secured which will probably last for some years.

*Sanitary Inspection.*—Three houses condemned as unfit for human habitation some years ago have now been demolished. Bakehouses, lodging-houses, slaughter-houses, and dairies and cowsheds are said to be satisfactory. Factories and workshops have been inspected during the year, and found in fair condition. Thirty-six privy middens were abolished, and 52 water-closets substituted. The Inspector (Mr. Fort) wrote 170 letters and served 24 preliminary and 25 legal notices for the abatement of 351 nuisances. Ten smoke observations were taken.

**Rawtenstall (Borough).**—(Area in acres, 9,535 ; Estimated Population, 31,350).—*Medical Officer of Health*, J. E. HELM, B.A., M.B. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·6	21·9	25·2
Death-rate .....	15·7	15·2	16·8
Zymotic death-rate .....	1·85	1·40	1·53
Phthisis „ .....	0·73	0·95	1·09
Respiratory „ .....	2·36	2·88	3·86
Rate of deaths under 1 year to 1,000 births .....	143	126	148

The decline in the birth-rate which has been experienced



for some years was arrested during the year under review, but the rate was 2·6 below the mean of the preceding decade. The death-rate, zymotic rate, and infant rate were fractionally higher than in 1903. Dr. Helm attributes much of the infantile mortality to improper feeding and undue exposure, the latter arising from the fact that many mothers resume work at the mill too soon after the birth of the infant, which has to be taken out to nurse in the early morning in all weathers. As a means of reducing this loss of infant life he asks his Council to consider (1) the advisability of appointing a nurse who has had special training in the management and feeding of infants, to instruct the mother in the proper method of preparing food and caring for delicate children; (2) the establishment of a depot for the preparation and sale of sterilised and humanised milk; and (3) the issuing of printed instructions to parents generally dealing with feeding and clothing of infants. A severe epidemic of measles was experienced in the early months of the year, and with one exception all the schools in the Borough were closed. Altogether 37 deaths resulted from this outbreak, 34 being amongst children under 5 years of age. Whooping cough gave rise to 7 deaths, and diarrhoea 3 deaths. Scarlet fever yielded 139 cases 3 deaths, against 69 cases 1 death in 1903. The bulk of the attacks took place in Crawshawbooth, where it was considered advisable to close the infant school for three weeks. For exposing an infected child in the public streets one of the householders was brought before the Justices and fined 10s. and costs. Typhoid fever was the cause of 15 cases 3 deaths; in 7 cases Widal's test was used, a reaction being obtained in four only. Dr. Helm looks upon a number of the private water supplies as a constant source of danger, likely to give rise to typhoid fever; in many instances the water is obtained from shallow wells, open streams, or even from the overflow of a drinking trough for cattle. The water is in some cases conveyed through



cultivated land in stone drains. Diphtheria and membranous croup accounted for 14 cases 5 deaths, erysipelas 32 cases, and puerperal fever 2 cases.

*Hospital Accommodation.*—The only provision available is for small-pox, at Ridge—22 beds.

*Disinfection.*—Steam apparatus provided. During the year the use of sulphur dioxide for the disinfection of rooms was discontinued, and formalin vapour substituted. Three schools and 125 houses were fumigated.

*Water Supply.*—Most of the houses are supplied by the Bury and District Joint Board; the supply during 1904 was “not so plentiful or so good as usual.” As the water is not filtered it was “muddy” for several weeks in the autumn. Many houses rely on water from private sources, which in some cases are liable to contamination. Reference to these has already been made under the head of typhoid fever.

*Sewerage, Scavenging, &c.*—Sewage is treated at the Ewood Bridge works of the Haslingden, Bacup, and Rawtenstall Joint Board. As the Mersey and Irwell Joint Committee have complained of unsatisfactory effluents from these works extensions are contemplated. Scavenging—in the hands of the Authority—is performed in an efficient manner. Refuse is burnt in the destructor.

*Sanitary Inspection.*—One house was closed as unfit for human habitation. The number of back-to-back houses is decreasing, although but slowly. Bakehouses, on the whole, are in good order, and slaughter-houses well conducted. There are 38 of the latter in the Borough, and as they are some distance apart, a difficulty is experienced in keeping them under proper supervision. A public abattoir in lieu of these places would greatly facilitate the inspection of meat. Lodging-houses, tripe-dressing premises, and vans used as dwellings were kept under constant observation.

There are about 250 farmers and cowkeepers within the Borough; very few of the cowsheds (only two or three) comply with the regulation as to air space. Many do not reach more than 300 or 400 cubic feet per cow, the roof above the cattle being only some 5 feet 6 inches to 6 feet high, and the light and ventilation defective. The Inspector often finds that the milking stock are not kept as clean as they might be, the udders and hind quarters often being "plastered with dung." Factories and workshops were on the whole found clean; 16 defects—chiefly want of limewashing—were remedied on attention being drawn thereto. Twenty-five pail or midden closets were converted to the water-carriage system. The Inspector (Mr. Rawling) reports on 233 nuisances abated, after the service of 161 notices. In five instances legal proceedings were instituted.

**Rishton.**—(Area in acres, 2,985; Estimated Population, 7,300).—*Medical Officer of Health*, JOHN BARR, M.D.: *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	19·7 ..	23·3 ..	25·7
Death-rate .....	12·1 ..	13·1 ..	13·4
Zymotic death-rate .....	2·19 ..	1·52 ..	2·02
Phthisis „ .....	0·41 ..	0·97 ..	0·91
Respiratory „ .....	3·15 ..	1·38 ..	2·12
Rate of deaths under 1 year to 1,000 births .....	152 ..	125 ..	149

The birth and death rates are the lowest recorded for some years, but the infantile mortality is higher than in any year since 1899. The zymotic rate is also above the average. There was a wide-spread epidemic of measles in the last quarter of the year; fortunately it was of a mild type, only 6 deaths resulting. Printed circulars were distributed, and

three schools closed. Dr. Barr again recommends that measles be placed on the list of notifiable diseases so as to enable him to have a better chance of checking its spread at the commencement of an outbreak. Four deaths were due to diarrhœa, and 2 to whooping cough. On two occasions—the first and last quarters—scarlet fever gave some trouble; altogether 47 cases were notified and 1 death resulted. Typhoid fever caused 7 cases 2 deaths, diphtheria associated with membranous croup 13 cases 1 death, erysipelas 18 cases, puerperal fever 3 cases, and continued fever 6 cases.

*Hospital Accommodation* nil. By arrangement one case of scarlet fever was removed to the Blackburn Corporation hospital.

*Disinfection*.—The absence of disinfecting appliances was much felt during the scarlet fever outbreak.

*Water Supply*, from Dean reservoir, is good and pure.

*Severage, Scavenging, &c.*—The method of sewage treatment is precipitation and irrigation. Plans and estimates have been prepared for extensions and alterations to works, and the Local Government Board, in November, held an Inquiry into an application to borrow £8,500 for the scheme. Scavenging is performed by contract in a satisfactory manner.

*Sanitary Inspection*.—Bakehouses and slaughter-houses are described as “good,” and dairies and cowsheds as “satisfactory.” In October there was an outbreak of anthrax at one of the farms; the cattle affected were immediately slaughtered and the carcasses cremated. The shippon and other farm buildings were thoroughly cleansed and disinfected and there was no further spread of the disease. Factories and workshops complied with the requirements as regards cleanliness, air space, and ventilation. Eighteen notices were required for the abatement of nuisances.

**Royton.**—(Area in acres, 2,145: Estimated Population, 15,350).—*Medical Officer of Health*, RALPH YOUNG, M.D.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·4 ..	23·8 ..	26·4
Death-rate .....	18·2 ..	18·0 ..	18·4
Zymotic death-rate .....	2·01 ..	1·11 ..	2·05
Phthisis „ .....	1·56 ..	1·38 ..	1·32
Respiratory „ .....	3·97 ..	3·81 ..	4·18
Rate of deaths under 1 year to 1,000 births .....	162 ..	132 ..	164

A rise in the birth-rate as compared with last year equal to 2·6 per 1,000 of the population is accompanied by a fractional increase in the general death-rate. The zymotic and infant rates are also increased, although both remain slightly lower than the mean of the 10 years 1894-1903. Measles caused some trouble during the year, particularly after the month of August. In October the disease prevailed so extensively at Heyside that a special house-to-house visitation was made, and, as a result, the infants' department of the Blackshaw Lane Council School was closed for 17 days; the epidemic rapidly disappeared from the time of closure. Seven deaths were due to measles, 9 to diarrhœa, and 3 to whooping cough. Seven cases of small-pox were notified: the first case was of so mild a character that it was not removed to hospital. This patient had been engaged as driver of the ambulance carriage, collecting sick cases from various parts of the Oldham Union, and so probably contracted the disease in this way. The remaining six cases were removed to hospital, three occurring in one household, none of whom had been vaccinated. Scarlet fever was prevalent at the beginning and end of the year, 147 cases being notified with 11 deaths. Only 1 case of

typhoid fever occurred (this had a fatal termination), and diphtheria was entirely absent. Erysipelas produced 15 attacks and puerperal fever 2.

*Hospital Accommodation.*—Small-pox cases are treated at the joint hospital at Cinder Hill, and other infectious cases can be removed, by arrangement, to the Oldham Corporation hospital at Westhulme. Six cases of small-pox and 18 cases of scarlet fever received hospital isolation.

*Disinfection.*—Steam apparatus at Oldham is available. Houses are disinfected by means of formalin, and sprayed.

*Water Supply,* derived from the Oldham Corporation mains, is generally considered to be sufficient and wholesome. The water has a tendency to act on the lead service pipes, and in this connection it may be mentioned that in Royton during the past year, one death is said to have been associated with plumbism of long standing.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. Extensions and alterations at the outfall works have recently taken place. Scavenging is performed fairly satisfactorily under the direction of the Authority, refuse being taken to the destructor.

*Sanitary Inspection.*—Bakehouses, with few exceptions, give satisfaction, and slaughter-houses are fairly well kept. At the dairies and cowsheds several improvements have recently been effected as regards drainage, lighting, and ventilation. Visits made to factories and workshops numbered 126, and 50 defects, mainly of a minor character, came under observation. Eight legal notices were required before these defects were considered to be remedied in a satisfactory manner. The Inspector served 36 notices, secured the abatement of 151 nuisances, took 4 smoke observations, &c.



**St. Annes-on-the-Sea.**—(Area in acres. 3,342: Estimated Population, 8,556).—*Medical Officer of Health.* FRED BOOTH, M.D.; *Salary.* £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	15·6 ..	18·3 ..	18·7
Death-rate .....	10·4 ..	10·4 ..	10·0
Zymotic death-rate .....	0·58 ..	0·24 ..	0·56
Phthisis .. .....	1·28 ..	0·60 ..	0·89
Respiratory .. .....	1·51 ..	1·21 ..	1·61
Rate of deaths under 1 year to 1,000 births .....	134 ..	66 ..	112

The birth-rate is very low, and 2·7 per 1,000 of the population below last year's average, while the death-rate remains exactly the same. Excluding the deaths of 14 visitors, the death-rate was 8·7. Diarrhœa caused 2 deaths, but no deaths were ascribed to either whooping cough or measles. The latter disease, however, prevailed extensively, especially in the country side of the district, and chiefly, in the first instance, amongst the children attending the Heyhouses Endowed Schools, which were, in consequence, closed from the 20th to the 30th of July, when the holidays commenced. After the holidays a similar outbreak occurred amongst the children attending the Roman Catholic School, and owing to this and the prevalence at the same time of scarlet fever, it was found necessary to close both schools until November 7th. Scarlet fever, generally of a mild type, was prevalent during September, October, and November, and caused 32 cases 1 death. Eighty-seven per cent. of the persons attacked were removed to hospital. There is little doubt that the spread of this disease was due to the mildness of several cases which were not medically treated. Two such cases came under notice—one where the guardian thought the child was suffering from measles, the other where the parents evidently were aware that the



child had scarlet fever, and were therefore prosecuted and fined 20s. and costs for not notifying the same. "The above outbreaks of measles and scarlet fever occurring at the same time," Dr. Booth states, "clearly show the benefit which might have resulted had the former been included amongst the notifiable diseases, as the latter outbreak was no doubt much prolonged by the parents of children affected mistaking the one disease for the other, and also allowing them to mix freely with others whilst in an infected state, and it is also probable that the epidemic of measles might have been curtailed had he known where the cases existed." The Council have decided to take the necessary steps to include measles amongst the notifiable diseases, the inclusion to come into force in January, 1905. One case of small-pox was notified, that of a lady who was paying a short visit to St. Annes, and who undoubtedly contracted the disease elsewhere. Prompt removal to hospital took place. Typhoid fever was notified on 10 occasions, in one instance with a fatal termination. Although careful enquiry was made in each case, and the houses thoroughly examined for any sanitary defect, the cause in most cases could not be discovered, but in one instance the person attacked had been in the habit of consuming raw cockles on the foreshore, and in another the drains of the house had been recently relaid, and the disturbance of the soil might account for the illness. Three cases of diphtheria were notified, one of which proved fatal. Two other notifications were received, viz., erysipelas. Voluntary notification of phthisis is strongly recommended; many householders have availed themselves of the Council's offer to disinfect, free of charge, rooms which have been occupied by phthisical persons.

*Hospital Accommodation* is available at Moss Side (Fylde Joint) for ordinary infectious diseases, and at Elswick for small-pox. Forty persons were removed during the year,

viz., small-pox 1, scarlet fever 28, typhoid fever 9, and diphtheria 2.

*Disinfection.*—Steam apparatus available; rooms are fumigated either with formalin or sulphur.

*Water Supply.*—Moorland water (supplied by the Fylde Water Board) free from all injurious matter, but in the summer months it is somewhat discoloured owing to the peaty nature of the gathering grounds.

*Sewerage, Scavenging, &c.*—Sewage is discharged by gravitation into the sea without previous treatment. The main system of sewers has been regularly flushed. Extension of the main sewer is constantly taking place, some 3,449 feet being laid during the year. Scavenging, as performed by the Authority, is described as fairly satisfactory. A refuse destructor is in operation.

*Sanitary Inspection.*—Bakehouses—15 in number—are clean, light, and airy. The public abattoir is now completed, but up to the present has been little used owing to the difficulty of approach through laying of sewer and road making. This work will soon be completed, and it is hoped that the premises will then be used by all the butchers, as the present private slaughter-houses are entirely unsuitable for their purpose. At seven of the farms it was found that the cowsheds were not provided with sufficient light, ventilation, and air space: the necessary alterations being subsequently made. The workshops (54) were, on the whole, in a satisfactory state. Only 4 privies were converted to the water-carriage system during the year. The Inspector (Mr. Proctor) reports on 208 nuisances dealt with, these necessitating 624 visits. Two smoke observations were taken. During the year meteorological instruments have been purchased, and the result of the observations are given in the report.

**Skelmersdale.**—(Area in acres, 1,942; Estimated Population, 6,400).—*Medical Officer of Health*, VINCENT O'REILLY, M.B.; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	37·8 ..	36·7 ..	34·4
Death-rate .....	26·7 ..	20·0 ..	18·3
Zymotic death-rate .....	5·15 ..	2·41 ..	1·11
Phthisis       ,, .....	0·78 ..	0·96 ..	0·85
Respiratory   ,, .....	4·37 ..	3·70 ..	5·38
Rate of deaths under 1 year to 1,000 births .....	219 ..	236 ..	162

The mortality statistics of this district are again of an unsatisfactory character. The general death-rate is 6·7 per 1,000 above last year's rate, and 8·4 above the mean of the preceding decade. This rate is the highest recorded in any of the County districts for 1904. The zymotic and infant rates are also excessive. These high rates are attributed by the Medical Officer of Health to the great want of employment in the district experienced during the year which led to more improper feeding of young children than is usual. This want of work and consequent scarcity of money rendered the epidemics of measles, diarrhœa, and whooping cough more than usually fatal on account of the lack of means to obtain proper nourishment or clothing for the sick children. The diseases mentioned caused 16, 8, and 4 deaths respectively. Scarlet fever gave rise to 15 cases 2 deaths, typhoid fever 4 cases 1 death, diphtheria 8 cases 2 deaths, and crysipelas and puerperal fever 2 cases 1 death each.

*Hospital Accommodation.*—A small cottage—4 beds—is reserved for small-pox.

*Disinfection.*—No apparatus.

*Water Supply*, obtained from an Artesian well, good and abundant.

*Sewerage, Scavenging, &c.*—Sewage is treated at two outfall works—Penny Land and Main Works—by settlement and irrigation. The Authority undertake scavenging.

*Sanitary Inspection.*—Bakehouses are described as good, and slaughter-houses, with one exception, as satisfactory. Dairies and cowsheds—not subject to regulations—are said to be well kept. Forty-four inspections were made of factories and workshops, but only 3 defects were noted. The Inspector served 44 notices for the abatement of nuisances.

**Southport (Borough).**—(Area in acres, 5,144; Estimated Population, 50,385).—*Medical Officer of Health*, JOHN J. WEAVER, M.R.C.S., D.P.H.; *Salary*, £475.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	17·5 ..	18·2 ..	20·1
Death-rate .....	14·4 ..	14·3 ..	14·5
Zymotic death-rate .....	0·73 ..	0·94 ..	0·98
Phthisis „ .....	1·11 ..	0·74 ..	1·05
Respiratory „ .....	1·92 ..	1·89 ..	2·19
Rate of deaths under 1 year to 1,000 births .....	134 ..	137 ..	145

As in previous years the population on which the mortality statistics are calculated is that given by the Registrar General as his estimate to the middle of the year, namely, 50,385. Assuming the proportion of males and females in the population to have remained the same as at the Census in 1901, the respective numbers in 1904 were, males 20,798, females 29,587. These figures give the proportion of males to females as 100 to 142, and show an excess of females over males of 8,789. The birth-rate was 0·7 below the rate for 1903 and 2·6 below the mean of the 10 years 1894-1903, and was the lowest ever recorded for the Borough. The highest birth-rate of which record is available was in 1877 when it

was 33·87 per 1,000. Since that date, with slight fluctuations, it has gradually fallen, until in 1895 it reached 23·38 per 1,000, and since 1895 it has fallen without interruption to the rate recorded above for 1904, viz., 17·51 per 1,000. The number of deaths which occurred in the Borough, and in the Borough infectious diseases hospital in Moss Lane (which, although just beyond the Borough boundary, is counted for the purpose of this report as being within the boundary) was 720, of which 358 were of males and 362 of females. These figures give a gross death-rate of 14·29 per 1,000 of the population against 14·45 in the previous year, which is the lowest gross death-rate yet recorded in the Borough. The average gross death-rate for the previous 10 years was 16·27 per 1,000. The gross death-rate, however, requires a correction by the subtraction of 22 deaths of non-residents registered in the public institutions in the district and the addition of 31 deaths of residents of Southport registered in public institutions outside the Borough. The “corrected” death-rate thus equals 14·4 per 1,000 as compared with 14·3 for last year, and an average of 14·5 for the preceding decade. If the deaths of 72 visitors, who came into the town in a precarious state of health and died only after a short stay are excluded, the “local” death-rate of 13·3 per 1,000 is obtained. The average length of stay in Southport of these cases was about 68 days, and varied from a little under 12 months—the longest period of residence of any of these visitors before death—to one day in other cases.

The zymotic and infant rates were below the average, the latter being the lowest recorded since 1898. In the hope of further reducing this mortality pamphlets containing instructions as to feeding have been sent to every house where a birth has taken place, and, in addition, the District Nursing Society has kindly allowed its nurses to give help and advice to young mothers. Chicken-pox, measles, and whooping cough are compulsorily notifiable in the Borough ;



though the number of cases was somewhat less than in the previous year, when they totalled 1,577, these diseases still furnish a total of 954 cases with 14 deaths, chicken-pox being responsible for 217 cases, measles 504 cases 9 deaths, and whooping cough 233 cases and 5 deaths. Diarrhœa was the cause of 9 fatalities. During the year 7 cases of small-pox occurred, with 2 deaths. The first attack occurred in February and proved to be of a virulent type, death taking place six days after admission to hospital. The husband of the above patient contracted, probably from his wife, a mild form of the disease. The source of infection could not be discovered. The third case occurred in March, also of a virulent and fatal type, the disease probably being contracted while working away from Southport. From this case another arose (the fourth). In April two other attacks took place—source of infection probably from the fourth case through the children of both houses playing together. In May, the seventh case occurred: the source was a relative who had had a very mild attack of the disease in the same house, but had not been specially treated for it, nor is it included in the statistics. Scarlet fever was more prevalent in 1904 than it has been for some years, there having been 333 cases notified—the highest number since 1896—and of these cases 10 were fatal. The remaining notifications were typhoid fever 10 cases, typhus fever 1 case, diphtheria 36 cases with 2 deaths, and puerperal fever 1 case (fatal). Voluntary notification of phthisis was adopted some years ago, but very little use has been made of it by the medical profession.

*Hospital Accommodation.*—The hospital contains in the ordinary wards accommodation for 48 patients. In addition, there is a special pavilion containing 10 beds, erected for and maintained by, the private schools in the Borough, and also a special pavilion with 12 beds for small-pox. The cases



removed during 1904 were as follows :—small-pox 7, scarlet fever 261, typhoid fever 1, and diphtheria 3.

*Disinfection.*—Steam apparatus available. Houses disinfected with sulphur or formalin numbered 377.

*Water Supply.* obtained from deep wells near Ormskirk, belonging to the Southport, Birkdale, and West Lancashire Water Board, is, though rather hard, of exceptional purity, and practically unlimited in quantity. The hardness is principally due to carbonate of lime, and removable to a considerable extent by boiling.

*Sewerage, Scavenging, &c.*—Drainage is by gravitation into the sea, the sewer outlet being about 3 miles to the north of the town. Steam pumping is also being made use of to a limited extent at the outlet, and small experimental bacteria filter beds have been put down. A new scheme for pumping and the treatment of the sewage at the outlet has been decided upon, and awaits the approval of the Local Government Board. During the year an increasing number of applications were made to the Health Department for the drains of private houses to be tested and generally overhauled—for this work a small charge is made. Ten additional sewer ventilating lamps have been erected during 1904, making a total of 32 altogether. These have worked satisfactorily. Seavenging is efficiently carried out under the supervision of the Corporation officials. The refuse destructor continues to do good work.

*Sanitary Inspection.*—The regular house-to-house inspection, commenced last year, was continued, and as a result many minor defects received attention. Several houses condemned were subsequently made habitable. Bake-houses and slaughter-houses were regularly visited, and a careful supervision of them maintained. Dairies and cow-sheds also were under constant supervision. All milk-supplying cows were carefully examined, both in the Borough,

and outside, by virtue of special powers under the Southport Corporation Act of 1900. Forty-five samples of milk were analysed, two being found deficient in cream; one vendor was fined 40s. and costs, and the other cautioned. Fourteen samples of milk were examined bacteriologically; most of the samples were reported satisfactory—a few showed evidence of dirt, and the vendors were warned. In no case was the tubercle bacillus found. There were two prosecutions for exposing unsound food for sale, and fines of 10s. and costs and £5 10s. and costs respectively were inflicted. Factories and workshops received 337 inspections, resulting in the discovery of 93 defects, which to remedy required the service of 46 written notices.

The amount of sanitary work accomplished is shown by the undermentioned items extracted from the report :—

Nuisances reported to Health Committee .....	1,536
Nuisance inspections not reported to Health Committee .....	15,139
Visits to workshops (and reports) .....	392
„    bakehouses (and reports) .....	104
„    dairies, cowsheds, and milkshops .....	165
„    common lodging-houses .....	497
Visits under Shop Hours Act .....	50
Visits in connection with offensive trades ..	4
Notices served .....	1,462
Houses without proper water supply reported .....	5
Smoke prevention observations .....	7
Enquiries into notifications of infectious diseases .....	1,260
Visits to ice cream vendors .....	30
„    piggeries .....	160
Inspection of house drains .....	377
Houses re-drained .....	77

House drains unstopped .....	608
Midden privies converted into w.c.'s.....	14
Wet ashpits converted into dry .....	14
Sundry structural nuisances abated .....	994
Drains smoke tested .....	284
Legal proceedings in respect of nuisances ..	1
Sanitary certificates issued .....	26
Houses examined and reported as unfit for human habitation .....	6
Samples taken under the Sale of Food and Drugs Acts .....	152

**Standish-with-Langtree.**—(Area in acres, 3,266; Estimated Population, 6,546).—*Medical Officer of Health*, J. H. WILSON, M.D.; *Salary*, £35.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	34·0 ..	34·1 ..	37·0
Death-rate .....	20·0 ..	13·9 ..	19·2
Zymotic death-rate .....	1·37 ..	1·53 ..	2·92
Phthisis       ,, .....	1·37 ..	nil. ..	0·90
Respiratory   ,, .....	3·97 ..	2·61 ..	4·28
Rate of deaths under 1 year to 1,000 births .....	174 ..	144 ..	178

The satisfactory decrease in the death-rate reported last year has not been maintained, the rate for the year under review (20·1) equal to 6·1 per 1,000 of the population in excess of 1903, is the highest recorded since 1899. The zymotic rate shows a fractional reduction, but the infantile mortality rose from 144 to 174 per 1,000 births. No deaths were due to diarrhoea, whooping cough, or measles, but the latter—notifiable in this district—gave rise to 131 attacks. Scarlet fever which has generally contributed a considerable number of cases was only responsible for 20 cases (4 fatal). Last year

86 cases 4 deaths were due to this disease, and in 1902 the cases numbered 124 and the deaths 2. Typhoid fever contributed 14 cases 5 deaths; Dr. Wilson states that he is of opinion that if the preeautions and regulations which have been promulgated during the past year for the prevention of ankylostomiasis are strictly earried out, they will have a very beneficial effect on the number of eases of typhoid fever among the young males employed underground in mining distriets. Diphtheria, including membranous croup, was responsible for 5 cases, and erysipelas 19 cases.

*Hospital Accommodation.*—The only provision is for small-pox—a cottage containing 6 beds.—Under an Order of the County Council this distriet is associated with neighbouring Authorities for the purpose of providing a small-pox hospital.

*Disinfection.*—No apparatus; sulphur fumigation relied upon.

*Water Supply.* obtained from the Rivington reservoirs of the Liverpool Corporation, is exeellent.

*Sewerage, Scavenging, &c.*—Sewage undergoes treatment by settlement, irrigation, and single eontact. Scavenging is carried out partly by contraet and partly by the Council; in both eases the work is performed efficiently.

*Sanitary Inspcction.*—Two houses unfit for habitation were elosed voluntarily. Bakehouses—all above ground—and slaughter-houses are clean and well kept, and the regulations as to dairies and eowsheds have been conformed to. A summons was issued in one instance for exposing for sale meat unfit for human food, but the ease has not yet been heard, as the defendant absconded. Factories and work-shops came under observation, a few minor improvements being effected. The Inspector (Mr. Shephard) as a result of 29 notices secured the abatement of 49 nuisanees.

**Stretford.**—(Area in acres, 3,240 ; Estimated Population, 34,060). — *Medical Officer of Health*, W. J. HESLOP, F.R.C.S., Ed. ; *Salary*, £150.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	21·7 ..	24·9 ..	21·6
Death-rate .....	13·0 ..	13·5 ..	14·0
Zymotic death-rate .....	1·29 ..	0·96 ..	1·41
Phthisis „ .....	0·67 ..	0·77 ..	1·08
Respiratory „ .....	2·75 ..	2·10 ..	2·56
Rate of deaths under 1 year to 1,000 births .....	114 ..	109 ..	145

The statistics for the year under review are marked by decreases in the birth and death rates, as compared with 1903, equal to 3·2 and 0·5 per 1,000 of the population respectively. The zymotic and infant rates, although slightly higher than last year, are still below the mean of the 10 years 1894-1903. The following table gives the rates, &c., for the various sub-districts :—

Ward.	Persons per acre.	Birth- rate.	Death- rate.	Zymotic rate.
Stretford ....	5·3 ..	27·6 ..	13·4 ..	2·0
Longford ....	6·1 ..	24·3 ..	18·6 ..	3·2
Talbot .....	4·4 ..	33·3 ..	15·1 ..	1·5
Trafford ....	32·9 ..	24·7 ..	8·8 ..	0·7
Cornbrook ..	24·0 ..	14·3 ..	12·6 ..	1·2
Clifford .....	115·4 ..	18·1 ..	14·1 ..	1·9

Diarrhœa with 13 deaths was the most fatal of the zymotic diseases. Measles caused 9 deaths and whooping cough 7 deaths. Three cases of small-pox occurred during the year and were all removed to hospital. Scarlet fever contributed 67 cases 3 deaths, diphtheria—which was prevalent during the months of May, June, July, and December, and necessitated school closure—64 cases 10 deaths, typhoid fever 17 cases 2 deaths, erysipelas 20 cases 3 deaths, and puerperal fever 1



case. Thirty-eight bacteriological examinations were made during the year in connection with the following :—diphtheria 23, typhoid fever 8, and sputum 7. Nine specimens of alleged diphtheria gave positive results; of the typhoid cases there were 5 positive results; and of the 7 samples of sputum 5 proved to be tuberculous.

*Hospital Accommodation* is provided at the Salford Corporation Hospital (Ladywell). The following 97 cases were removed :—scarlet fever 48, typhoid fever 5, diphtheria and membranous croup 40, erysipelas 3, and puerperal fever 1. The small-pox cases were treated at the Drinkwater Park hospital (Salford).

*Disinfection*.—The steam apparatus was used for the disinfection of 1,594 articles. The number of rooms fumigated amounted to 302, and in 93 instances the walls were stripped and washed. In addition, 117 schools were disinfected.

*Water Supply* obtained mainly from the Manchester waterworks is good. The water from two wells in the district has been analysed during the year, and in both instances certified as unfit for domestic use.

*Sewerage, Scavenging, &c.*—The sewage farm continues to work satisfactorily. The sewers have been provided with fifty ventilating shafts during the year. Examination of house drains resulted in 249 defects being found out of 552 drains tested (old property), and 399 defects out of 899 drains tested (new property). A large number of defects were also disclosed as a result of the examination of sanitary fittings. Scavenging is efficiently performed by the Authority, refuse being taken to the destructor.

*Sanitary Inspection*.—The scheme for the erection of dwellings for the poorer portion of the working classes mentioned in last year's report has now received the sanction of the Local Government Board, and it is hoped may soon be



proceeded with. There are 31 bakehouses in the district, to which 131 visits were paid. During the year 2 cellar bakehouses have been replaced by new ones built above ground level. Slaughter-houses (8) taken as a whole are fairly good as regards structural conditions. Careful attention has been paid to the inspection of meat, the Council having a special officer for this duty at the Foreign Animals' Wharf, where all the animals slaughtered are inspected prior to leaving the premises to be placed on the various markets, such inspection resulting in 11,960 lbs. of beef and 198 lbs. of mutton being condemned as unfit for human food. Dairies and cowsheds, factories, workshops, &c., are regularly visited, and every effort is made to keep them in a satisfactory condition. Two hundred and forty-nine privies and 133 ashpits have been replaced by 249 pedestal water closets and dry ash receptacles or galvanised dust bins. The Inspector (Mr. Nuttall) served 275 notices for the abatement of nuisances. Smoke observations taken during the year numbered 192 against 97 in 1903. The time limit (4 minutes in the hour) has been exceeded 27 times, and on each occasion the offenders have been notified.

**Swinton and Pendlebury.**—(Area in acres, 2,212; Estimated Population, 28,200).—*Medical Officer of Health*, SAMUEL HOSEGOOD, M.R.C.S.; *Salary*, £90.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	31·7 ..	32·9 ..	31·4
Death-rate .....	21·2 ..	16·6 ..	18·9
Zymotic death-rate .....	4·96 ..	1·67 ..	3·33
Phthisis „ .....	0·70 ..	0·82 ..	0·79
Respiratory „ .....	4·96 ..	4·0 ..	4·36
Rate of deaths under 1 year to 1,000 births .....	224 ..	156 ..	187

The birth-rate shows a reduction of 1·2 per 1,000 of

the population as compared with last year, but approximates very closely with the mean of the preceding decade. The rate for Swinton was 28·8 and for Pendlebury 35·2. An increase in the death-rate equal to 4·6 per 1,000 is noted, and the zymotic and infant rates are excessive and well above the averages for 1903. The comparatively high death-rate of the district has been largely due to the higher percentage of deaths under five years of age, and, to a less extent, to those of 65 years and upwards. The mortality from measles, whooping cough, and diarrhœa has been much in excess of many previous years, and this has necessarily had an effect on the general rate. The same remark applies to respiratory diseases, but it is gratifying to notice a reduction in the phthisis rate. The following tabular statement shows the death-rates in the two divisions of the district, and also in the various wards :—

	Swinton.	Pendle- bury.	North Ward.	South Ward.	West Ward.	East Ward.
Death-rate . . . . .	18·1	24·8	18·7	17·5	23·7	26·3
Zymotic rate . . . . .	3·9	6·3	4·1	3·5	6·5	6·0
Respiratory rate . . . . .	4·8	6·8	5·3	4·4	6·1	7·6
Infant mortality . . . . .	184	263	215	147	272	253

Measles was the cause of 40 deaths; the disease was very prevalent in the second quarter, but as a very large percentage of the children attacked had not been attending school—being under school age—the question of school closing did not arise, but it was thought advisable to resort, rather, to the exclusion of particular scholars. Whooping cough contributed 22 deaths against 1 death in 1903, and none in 1902. Diarrhœa had an exceptional prevalence, attributed mainly to the unusual dryness of the summer; altogether 47 deaths were ascribed to this cause. Small-pox broke out in September, the first case being a mill worker, the nature of whose attack was not recognised for three days from the onset. Before the end of the year 19 other cases had arisen, many being more or less directly traceable to the first case.

Prompt removal to hospital took place, and the usual precautions as to vaccination, quarantine, &c., adopted. Scarlet fever gave rise to 211 cases and 13 deaths; the disease was most prevalent in the first and last quarters, and the Swinton district suffered most. The remaining notifications were—typhoid fever 42 cases with 11 deaths, diphtheria and membranous croup 56 cases with 7 deaths, erysipelas 41 cases with one death, and puerperal fever 1 case (fatal). Only a small number of cases were removed to hospital. Dr. Hosegood in this connection states that “one reason why the comparatively smaller percentage was dealt with in this manner is that a large proportion of the cases occurred in dwellings where the infected could be better kept apart from the healthy than has been the case in other years. In every individual case the advantages and disadvantages of home as against hospital treatment are always carefully weighed, and the surroundings and circumstances of each one fully taken into consideration (in consultation with the Chairman of the Sanitary Committee) before removal is effected. Every case is, in fact, dealt with on its merits, *i.e.*, whether or not reasonable facilities exist for treating it at home, and this, it is believed, has on the whole proved satisfactory.”

*Hospital Accommodation.* -- The Salford Corporation hospital, at Ladywell, is by arrangement available for cases of ordinary infectious diseases. Small-pox cases are removed to the hospital (14 beds) at Linnyshaw Moss, provided jointly by Worsley and Swinton and Pendlebury. Altogether 62 cases were removed, *viz.*, small-pox 20, scarlet fever 27, typhoid fever 5, and diphtheria 10.

*Disinfection.*—The steam disinfectant at the Ladywell sanatorium is relied upon. Infected rooms are fumigated with sulphur.

*Water Supply* good, obtained from the Manchester Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated at two outfall works. On a few occasions the Mersey and Irwell Joint Committee have complained of unsatisfactory effluents. The work of testing drains and sanitary fittings was again extensively carried out, 1,666 inspections or re-inspections being made; defects were discovered on 330 premises, and the nature of the defects shows the necessity for the continued examination and testing of house drains and sanitary fittings. Scavenging is performed by the Authority in a satisfactory manner.

*Sanitary Inspection.*—The various portions of the district have, as in previous years, been systematically visited in order to ascertain general sanitary circumstances affecting each part thereof. Bakehouses, on the whole, are in good order; in one case the use of premises as a bakehouse was discontinued, owing to the inability of the tenant to make satisfactory alterations. Slaughter-houses were regularly visited so as to ensure the necessary cleansing and lime-washing being attended to. Considerable structural alterations were effected in two instances. Dairies and cowsheds also received much attention; some of the shippens were improved as regards drainage, ventilation, cubic space, &c. Sixty-seven inspections were made of factories and workshops, 19 defects being found and remedied. Two hundred and sixty-six privies underwent conversion to water-closets, and 200 ashbins were provided in lieu of ashpits. The Inspector (Mr. Bleakley) served 525 notices, secured the abatement of 1,722 nuisances, took 20 smoke observations, &c. In four instances, where the owners or agents have failed to comply with legal notices served, the Council have themselves proceeded to execute the necessary work, the owners being afterwards sued for the expenses incurred.

**Thornton.**—(Area in acres, 2,996 ; Estimated Population, 3,711).—*Medical Officer of Health*, F. S. RHODES, M.R.C.S. ; *Salary*, £30.

Per 1,000 of Population.	1904.	1903.	Mean of 4 years. 1900-1903.
Birth-rate .....	31·2 ..	33·5 ..	33·4
Death-rate .....	14·0 ..	14·7 ..	13·5
Zymotic death-rate .....	1·07 ..	1·13 ..	1·52
Phthisis .. .....	0·80 ..	0·28 ..	0·14
Respiratory .. .....	2·96 ..	1·70 ..	1·90
Rate of deaths under 1 year 1,000 births .....	103 ..	135 ..	137

The birth-rate was 2·3 per 1,000 below last year's rate, and the death-rate showed a fractional reduction. The zymotic rate was entirely accounted for by 4 deaths from diarrhœa. Measles—notifiable in this district—gave rise to only 13 cases, against 359 cases in the previous year. Scarlet fever was entirely absent ; typhoid fever and diphtheria each caused 2 cases, and erysipelas 4 cases. An outbreak of anthrax occurred at one of the farms, three animals being affected. The first two were sold without having been inspected. Two butchers who dressed the animals were inoculated with the germs of anthrax and one died.

*Hospital Accommodation* is available at Moss Side (Fylde Joint) for ordinary infectious cases, and at Elswick for small-pox. No cases were removed.

*Disinfection* is carried out by means of sulphur or by formaldehyde vapour.

*Water Supply* is derived mainly from the Fylde Water Board. Notwithstanding attention being repeatedly drawn to the matter a portion of East Ward remains without an efficient supply of water.



*Sewerage, Scavenging, &c.*—Sewage matter still flows into ditches, dykes, &c. A sewage scheme, however, is in progress with an outfall to the sea. Removal of house refuse is performed under contract, and on the whole gives satisfaction.

*Sanitary Inspection.*—Bakehouses, slaughter-houses, and factories and workshops—regularly inspected—were generally well kept. Dairies and cowsheds have been inspected three times, and the sanitary condition of a number of them has been improved, but there is still room at many for better sanitary arrangements. The Inspector (Mr. Fenton) served 147 notices, and as a result secured the abatement of 210 nuisances.

**Tottington.**—(Area in acres, 2,543; Estimated Population, 6,450).—*Medical Officer of Health*, A. H. POOLE, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 5 years, 1899-1903.	
Birth-rate .....	18·6	.. 16·6	..	20·1
Death-rate .....	15·8	.. 14·1	..	14·4
Zymotic death-rate .....	1·55	.. 1·90	..	1·29
Phthisis ..	1·39	.. 0·47	..	0·92
Respiratory ..	2·48	.. 3·33	..	3·55
Rate of deaths under 1 year to 1,000 births .....	116	.. 57	..	96

The mortality statistics, on the whole, are not so favourable as last year, and exceed the averages for the five years 1899-1903. The death-rate is 1·7 per 1,000 above the rate for 1903. Measles, although only the cause of one death, was epidemic in the Walshaw Ward in October and November, and, in consequence, school closure was resorted to. In June chicken-pox prevailed in the Greenmount Ward, and the schools here were closed for five weeks. Whooping



cough contributed 3 deaths. Scarlet fever had a marked prevalence, 76 cases being notified with 3 deaths, against 37 cases with 4 deaths in 1903. The cases were mostly of a mild type, this circumstance probably accounting for its spread. In consequence of the presence of this disease in Hawkshaw Ward it was found necessary to close the schools for three weeks. The practice of sending teachers or senior pupils from the Elementary Schools into houses to enquire into the cause of absence of scholars was possibly a factor in the spread of disease, and ought to be discontinued. Four cases of typhoid fever were notified, two of which had a fatal termination. Two of the attacks were attributed to sanitary defects in the houses, and one case was probably due to a contaminated water supply. Membranous croup caused one case.

*Hospital Accommodation.*—Arrangements have been made for the isolation of cases of infectious disease, including small-pox, by the formation of the Bury, &c., Conjoint Board. Thirty-five cases received hospital treatment, viz., scarlet fever 33, typhoid fever 1, and membranous croup 1.

*Disinfection.*—Infected clothing is disinfected at Bury. Forty-seven houses and eight schools were fumigated with sulphur or formalin.

*Water Supply* is obtained from the Bury, &c., Joint Board. Complaints were frequently made in the Hawkshaw district as regards irregular supply, and also, occasionally, as to its quality.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation with alumino-ferric solution, and subsequent land filtration. In October the Mersey and Irwell Joint Committee drew attention to an unsatisfactory effluent. Scavenging, performed by the Authority, has, on the whole, given satisfaction.

*Sanitary Inspection.*—No serious sanitary defects were noted at the bakehouses or slaughter-houses. The farms are generally well kept, although at some the cowsheds have not sufficient air space. Factories and workshops received special attention, and details of the inspections are given. Only a few defects were discovered. The Inspector (Mr. Kenyon) secured the abatement of 80 nuisances. Five smoke observations were taken.

**Trawden.**—(Area in acres, 6,815; Estimated Population, 2,780).—*Medical Officer of Health*, GEORGE SKEEN, M.B.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	26·2	.. 27·2	.. 28·1
Death-rate .....	20·5	.. 12·3	.. 15·9
Zymotic death-rate .....	2·15	.. 0·72	.. 1·42
Phthisis .. .....	1·07	.. 0·72	.. 1·18
Respiratory „ .....	3·92	.. 4·36	.. 3·39
Rate of deaths under 1 year to 1,000 births .....	232	.. 53	.. 149

The most marked features of the year under report are the large increases in the general death-rate and infantile mortality as compared with 1903. The former rose 8·2 per 1,000 of the population, and the latter from 53 per 1,000 births to 232. Measles contributed 3 deaths and whooping cough 1 death amongst children under the age of one year, but the other deaths of young children were due to causes over which the sanitary authority has no control. In May and June a severe epidemic of measles visited the district; in dealing with the outbreak handbills were distributed and the Trawden mixed and infants' schools were closed until after the Whitsuntide holidays. Dr. Skeen says, “that the habit of sending children as messengers to houses to enquire as to the cause of non-attendance of absentees should

be stopped, pointing out that the house so visited might easily be infected, either by measles or any other disease, and that the messenger might take the infection, and through him, to others in the school." In his opinion, "this practice is a foolish one, even in times of health, as the house visited might contain the first patient of an epidemic. In times of epidemic it is highly dangerous." Only three notifications were received, viz., diphtheria, membranous croup, and erysipelas one case each. The first two mentioned diseases proved fatal.

*Hospital Accommodation* nil. Cases of small-pox can be removed to Colne by arrangement. No provision is made for the treatment of ordinary infectious diseases.

*Disinfection*.—No apparatus.

*Water Supply*.—The quality is good, but in dry seasons the water becomes insufficient. This, however, will shortly be obviated as a new supply, pure and wholesome, has been discovered.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and irrigation. The oft complained of Cotton Tree district has now been connected to the main sewer of the Colne Corporation. Scavenging is performed satisfactorily by contract, refuse being deposited in disused quarries.

*Sanitary Inspection*.—Some of the old property is far from satisfactory, and a few rows of back-to-back cottages still exist. Slaughter-houses and bakehouses are in good condition. Some of the cowsheds are large and airy, but others badly ventilated, low roofed, and dirty. Regulations have not been adopted. Factories and workshops received attention; some require much improvement, the closet accommodation being absolutely deficient and lacking in cleanliness. Only 15 notices were required for nuisance abatement.

**Turton.**—(Area in acres, 17,335; Estimated Population, 12,513).—*Medical Officer of Health*, JAMES ROBINSON, M.D., L.S.Sc.; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	22·1 ..	20·3 ..	21·4
Death-rate .....	12·5 ..	13·0 ..	12·8
Zymotic death-rate.....	0·31 ..	1·12 ..	1·03
Phthisis „ .....	0·71 ..	0·80 ..	1·02
Respiratory „ .....	2·31 ..	2·48 ..	2·65
Rate of deaths under 1 year to 1,000 births .....	83 ..	55 ..	108

As compared with the previous year, the birth-rate shows an increase of 1·8 per 1,000 of the population, whilst the death and zymotic rates are reduced, the latter being the lowest recorded since 1894. The infantile mortality, although low, is less favourable than in 1903. The birth-rates in the various sub-divisions were as follows:—Turton 22·3, Edgworth 20·0, Bradshaw 25·8, and Belmont 22·1; and the death-rates—Turton 13·2, Edgworth 9·8, Bradshaw 13·7, and Belmont 9·3. Measles prevailed in Edgworth Ward during the early part of the year, necessitating the closure of Hob Lane school for a period of three weeks; fortunately no deaths were ascribed to this disease. Whooping cough caused 4 deaths; the disease was prevalent from February to May, the Dimple, Walmsley, and Eagley schools being in consequence closed for a month. after which the disease quickly subsided. Diarrhœa did not cause a single fatality. Scarlet fever caused 71 cases but no death. The measures adopted with a view to the prevention of the spread of the disease were home isolation, disinfection of occupied rooms and clothing, cleansing and disinfection of school premises, and school closure. Dr. Robinson says:—“this latter measure appears to have been the most effective, as only 9 cases occurred after the closure

of the school, 5 of them being in one house." Typhoid fever and diphtheria were each responsible for 4 cases, and erysipelas contributed 6 cases with 1 death.

*Hospital Accommodation.*—No provision is made for the treatment of ordinary infectious diseases. A temporary arrangement has been made with the Bury, &c., Joint Board for the treatment of small-pox cases at the Ainsworth hospital.

*Disinfection.*—No apparatus. Fifty-five houses and five schools were fumigated with sulphur.

*Water Supply* is obtained mainly from the Bolton Corporation. An improvement in the quality of the water to the higher parts of Egerton was effected by the completion, in the early part of the year, of the alterations to the Springs and Dingle reservoir. Several of the farms and cottages in the outlying portions of the district are supplied by springs and shallow wells. Some of these were found to be unwholesome and unsafe for use, and measures were adopted to procure suitable and safe supplies.

*Sewerage, Scavenging, &c.*—Sewage receives treatment at three outfall works—Eagley, Bradshaw, and Belmont. On one occasion the Mersey and Irwell Joint Committee complained of an unsatisfactory effluent from the Eagley works. Scavenging is "fairly well performed," the refuse being disposed of on tips. The ashpit system is the principal method in vogue, and as very few of the ashpits are watertight, they become filthy and offensive, and are a constant source of ill-health, if not of actual disease.

*Sanitary Inspection.*—Bakehouses and slaughter-houses have been regularly inspected and are said to be in a satisfactory condition. Dairies and cowsheds have also been frequently visited during the year, 405 inspections being made of these premises. Twenty-six of the cowsheds were



found to be overcrowded. The factories and workshops generally are satisfactory as regards cleanliness, air-space, ventilation, &c. One hundred and twelve privy middens were converted to the water-carriage system during the year. The Inspector (Mr. Mc.Morrine) served 189 notices for the abatement of nuisances. The sanitary work accomplished included the following:—

House drains repaired or cleansed .....	318
,,    ,,    reconstructed or trapped .	393
Yard surfaces repaired .....	161
Slopstone pipes disconnected .....	49
,,    ,,    repaired .....	128
Downspout defects removed.....	348
New ventilating shafts fixed.....	21
Total number of inspections.....	1664
,,    ,,    re-inspections .....	2005
Smoke observations .....	142

**Tyldesley-with-Shakerley.**—(Area in acres, 2,490; Estimated Population, 16,000).—*Medical Officer of Health*, B. BLAKEMORE, M.R.C.S.; *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	31·0	.. 34·0	..	34·1
Death-rate .....	15·1	.. 17·6	..	17·5
Zymotic death-rate .....	2·18	.. 2·28	..	2·89
Phthisis      ,,      .....	0·56	.. 0·57	..	0·95
Respiratory   ,,      .....	3·12	.. 4·19	..	3·89
Rate of deaths under 1 year				
to 1,000 births .....	183	.. 169	..	169

With the exception of the infantile rate, the mortality statistics bear favourable comparison with the previous year. The birth-rate shows a reduction of 3·0 per 1,000 of the population. Measles did not cause any fatality, but 17



deaths were ascribed to diarrhœa, and 6 to whooping cough. One case of small-pox occurred in October. The patient was at once isolated, and the usual precautions taken. The source of infection could not be traced. In consequence of this case the Wesleyan schools were closed for 14 days. Scarlet fever had a much reduced prevalence with 108 cases 1 death, as compared with 434 cases and 15 deaths in 1903. In two instances legal proceedings were successfully instituted for failure to notify cases of this disease. Typhoid fever contributed 33 cases 6 deaths, diphtheria and membranous croup 17 cases 5 deaths, erysipelas 15 cases, puerperal fever 5 cases (3 fatal), and continued fever 5 cases.

*Hospital Accommodation.*—Fifty-three cases were removed to the joint sanatorium at Astley, viz., small-pox 1, scarlet fever 43, and typhoid fever 9.

*Disinfection.*—No proper appliances for clothing, &c. The schools and 175 houses have been disinfected with either sulphur or formalin.

*Water Supply.*—An additional supply of water has been obtained from the Manchester Corporation, and now it “is everything that could be desired.”

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration. On several occasions the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. The Authority undertake scavenging.

*Sanitary Inspection.*—Bakehouses are kept in good condition and regularly linewashed; one underground bakehouse was closed. Slaughter-houses are “reasonably clean,” and the two common lodging-houses fairly satisfactory. Referring to dairies and cowsheds, Dr. Blakemore states “there is still room for improvement in the general cleanliness of a number of the cowsheds.” In regard to factories and

workshops several defective sanitary conveniences, lime-washing, &c., received attention. Sixty-three privies were converted to the water-carriage system. The Inspector served 387 notices, and as a result secured the abatement of 349 nuisances. Smoke observations were taken, but no further action resulted.

**Ulverston.**—(Area in acres, 3,172; Estimated Population, 10,060).—*Medical Officer of Health*, G. H. PATTERSON, M.R.C.S., D.P.H.; *Salary*, £105.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	24·8 ..	28·1 ..	26·3
Death-rate .....	18·7 ..	16·5 ..	16·2
Zymotic death-rate.....	1·39 ..	1·49 ..	1·08
Phthisis           ,,       .....	0·99 ..	0·59 ..	1·12
Respiratory       ,,       .....	4·07 ..	3·28 ..	2·90
Rate of deaths under 1 year to 1,000 births .....	172 ..	95 ..	119

As compared with last year the birth-rate shows a decrease equal to 3·3 per 1,000 of the population, and the death-rate an increase of 2·2. The zymotic rate is fractionally lower, but the rate of infant deaths under one year to 1,000 births rose from 95 to 172. No deaths were due to measles or whooping cough, but diarrhœa caused 5 fatalities. There was a very gratifying falling off in the number of cases of scarlet fever reported, and the cases have generally been of a mild type. It will be remembered that for three years this disease has been epidemic, but during 1904 only 22 cases were notified, and 1 death resulted. Diphtheria also for some time has given much trouble; during the year under review 72 cases and 8 deaths occurred, whilst in the previous year there were 96 cases 5 deaths, and in 1902, 111 cases with 13 deaths. The epidemic has in the main, been due to infection

through school attendance, and not to contaminated milk or water supplies, or to defective sewerage." The remaining notifications were, typhoid fever 3, erysipelas 16, and puerperal fever 2. The voluntary notification of phthisis has been adopted.

*Hospital Accommodation.*—Forty-six cases of diphtheria and 8 of scarlet fever were isolated at the joint hospital at High Carley.

*Disinfection.*—No apparatus. Seventy-three houses were fumigated after infectious disease.

*Water Supply.*—The quality and quantity of the water supply have been satisfactory. The supply to Low Mill cottages, which was previously obtained from an open runner very liable to organic pollution, is now taken from the public mains, which have been extended for that purpose. A 3-inch main has also been laid from Greenbank to Belmont, and Rosside will shortly be supplied from the mains in lieu of a private supply liable to contamination.

*Sewerage, Scavenging, &c.*—Sewage of one portion of the district flows into tanks, and after subsidence is discharged into the sea, and from another part it is taken direct to the foreshore. Extensions of sewers have taken place during the year at Dragley Beck Road, Sandside, Greenbank, and Belmont. Scavenging is performed by the Authority.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are described as "fair," and dairies and cowsheds as "moderate." The three common lodging-houses are kept in good order. Privy midden conversion continues, 37 being transformed to the water-carriage system during 1904. The Inspector (Mr. Whitlow) served 45 notices (affecting 89 premises) for the abatement of nuisances.

**Upholland.**—(Area in acres, 4,686; Census Population, 4,773).—*Medical Officer of Health*, J. LLOYD JOHNSTONE, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	32·6 ..	35·6 ..	35·9
Death-rate .....	16·5 ..	14·4 ..	17·8
Zymotic death-rate.....	1·04 ..	2·09 ..	1·89
Phthisis „ .....	0·41 ..	0·62 ..	0·82
Respiratory „ .....	3·77 ..	1·67 ..	4·01
Rate of deaths under 1 year to 1,000 births .....	108 ..	64 ..	125

A reduction of 3·0 per 1,000 in the birth-rate as compared with last year is accompanied by a rise in the death-rate equal to 2·1. The reduced zymotic rate is the lowest recorded since 1894, but the infantile mortality is less favourable than in 1903. Measles and whooping cough each contributed 2 deaths; diarrhœa nil. On account of the prevalence of measles in the months of March and April at Crawford Village, it was deemed necessary to close the schools there for a period of six weeks. Small-pox made its appearance in the month of March, the patient being a young girl, who contracted the disease whilst at work in a factory. She was at once removed to the hospital tent at Dig Moor, and with the exception of her mother, all the members of the family were re-vaccinated. The mother developed the disease sixteen days later, and two other cases also occurred in the same locality. These cases were promptly removed to hospital. Re-vaccination was freely performed, and no further spread of the disease took place. All the patients recovered. Scarlet fever gave rise to 17 cases, typhoid fever 2 cases, membranous croup 1 case (fatal), and erysipelas 1 case.

*Hospital Accommodation.*—A tent hospital is provided for small-pox, and as stated above 4 cases were isolated there.

A joint small-pox hospital scheme for this and neighbouring districts is in progress.

*Disinfection.*—No apparatus.

*Water Supply* reported as “continuous and good.”

*Sewerage. Scavenging, &c.*—Sewage is treated at four outfall works, viz.:—Tontine, Main, Dig Moor, and Holland Moor. During the year bacterial filter beds have been provided for the Dig Moor district. An extensive scheme for dealing with the sewage of the village of Upholland is under consideration, and when carried out should be of immense benefit. Scavenging, performed by the Council’s workmen is described as “very fair,” the refuse being used for agricultural purposes.

*Sanitary Inspection.*—The unsatisfactory condition of the property in Alma Hill and Factory Yard will shortly receive attention. Bakehouses and slaughter-houses are described as “good,” and dairies and cowsheds—regularly visited—show a marked improvement in regard to general cleanliness and ventilation. The Inspector (Mr. Hunt) served 31 notices and secured the abatement of 60 nuisances.

**Urmston.**—(Area in acres, 992; Estimated Population, 7,200).

—*Medical Officer of Health*, G. E. FRYER, M.R.C.S.;  
*Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate .....	22·5 ..	23·6 ..	23·2
Death-rate .....	13·7 ..	11·9 ..	11·7
Zymotic death-rate .....	1·25 ..	1·26 ..	1·79
Phthisis „ .....	0·27 ..	1·26 ..	0·68
Respiratory „ .....	2·50 ..	2·53 ..	2·07
Rate of deaths under 1 year to 1,000 births.....	135 ..	148 ..	118

A decrease in the birth-rate of 1·1 per 1,000 as compared



with last year is accompanied by an increase in the death-rate of 1·8. The zymotic rate remains practically the same, and the infant mortality is slightly more favourable. Five deaths were due to diarrhœa, and 2 to whooping cough. Two cases of small-pox were notified. The first patient appears to have contracted the disease from a slight and unrecognised case with which she had been in contact. The second case occurred in the house of the first, the patient being in quarantine at the time. She had refused to be re-vaccinated. Every precaution was taken as regards quarantine, disinfection, and re-vaccination. Scarlet fever (40 cases) was prevalent at the beginning and end of the year, the intervening period being unusually free. It was of a mild type, and there were no deaths. Typhoid fever has been entirely absent for two successive years. Diphtheria contributed 16 cases 2 deaths, and erysipelas 6 cases. Arrangements have been made for bacteriological examinations in suspected cases of diphtheria and typhoid fever, and also for the examination of sputum in cases of suspected tuberculosis.

*Hospital Accommodation.*—Infectious cases are removed to the Salford Corporation hospitals by agreement. The 2 cases of small-pox were taken to Drinkwater Park hospital, and eight cases (6 scarlet fever and 2 diphtheria) were removed to the Ladywell Sanatorium.

*Disinfection.*—Bedding is disinfected by steam at the Ladywell hospital, and rooms are fumigated by means of formaldehyde.

*Water Supply,* excellent in quality, obtained from the Manchester Corporation.

*Sewerage, Scavenging, &c.*—Sewage purification is under the control of the Urnston and Flixton Joint Committee, treatment being effected by covered septic tanks, followed by



cinder and land filtration. Seavenging is performed by the Council's employees, the team labour being supplied by contract.

*Sanitary Inspection.*—Bakehouses and slaughter-houses have given rise to no complaint. The condition of dairies and cowsheds remains much the same as in previous years, the air space, in many instances, being deficient. Factories and workshops were inspected, a few slight defects being promptly remedied on attention being directed thereto. Notices served numbered 30, and nuisances abated 112.

**Walton-le-Dale** —(Area in acres, 4,658 ; Census Population, 11,271).—*Medical Officer of Health*, R. TRIMBLE, M.D., D.P.H. : *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·6 ..	26·6 ..	28·5
Death-rate .....	18·3 ..	14·1 ..	16·3
Zymotic death-rate.....	2·66 ..	1·41 ..	2·14
Phthisis .. .. .	1·41 ..	1·06 ..	1·09
Respiratory .. .. .	2·83 ..	2·30 ..	2·58
Rate of deaths under 1 year to 1,000 births .....	179 ..	113 ..	156

A decline in the birth-rate of 1·0 per 1,000 as compared with the previous year is accompanied by an increase in the death-rate of 4·2. The zymotic and infant rates are also less favourable, the former being the highest recorded since 1897. Measles and whooping cough, prevalent during almost the whole of the year, caused 14 and 7 deaths respectively. Diarrhœa gave rise to 5 deaths. A case of small-pox was notified in December. The patient was promptly removed to hospital and all the persons in the house over 7 years of age re-vaccinated. Scarlet fever caused 26 cases 2 deaths;

it was considered advisable to close two schools on account of this disease. Typhoid fever contributed 12 cases 2 deaths. diphtheria 1 case, erysipelas 2 cases. and puerperal fever 3 cases.

*Hospital Accommodation.*—A new hospital for the treatment of ordinary infectious diseases was opened on the 23rd November. It consists of two pavilions—one divided into two wards, of 4 beds each, intended for the isolation of scarlet fever patients, and the other consisting of two wards, of 2 beds each, for the treatment of diphtheria or typhoid fever cases. In addition, an administrative block is provided with the usual nurses' quarters, &c., and a further block contains the laundry, ambulance shed, mortuary, &c. The total cost was about £5,000. Provision for the isolation of small-pox cases is provided at the Bradkirk hospital.

*Disinfection.*—Hot air apparatus available. Thirty-one houses were fumigated.

*Water Supply* obtained partly from the Authority's pumping station at Brindle, and partly from the mains of the Manchester Corporation.

*Sewerage, Scavenging, &c.*—The effluent from the sewage works appears to have been of a satisfactory character. Scavenging is said to be efficiently carried out.

*Sanitary Inspection.*—One house was condemned as unfit for human habitation. Attention is again drawn to the danger likely to arise from the unsatisfactory condition, as regards paving, &c., of many backyards. Bakehouses, slaughter-houses, dairies and cowsheds, and factories and workshops are in a satisfactory condition. Sixteen privy middens were converted to the pail system, and 16 to the waste-water system. The Inspector (Mr. Moxham) reports on nuisances dealt with on 33 premises.

**Wardle.**—(Area in acres, 3,192; Estimated Population, excluding Institutions, 4,100).—*Medical Officer of Health*, G. MACGILL, L.R.C.P.E.; *Salary* £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	17·3 ..	14·4 ..	19·2
Death-rate .....	13·9 ..	10·6 ..	13·6
Zymotic death-rate .....	1·21 ..	1·12 ..	1·17
Phthisis „ .....	1·21 ..	0·90 ..	0·85
Respiratory „ .....	3·65 ..	0·67 ..	2·64
Rate of deaths under 1 year to 1,000 births.....	84 ..	125 ..	130

The births and deaths occurring in the Dearnley Work-house belonging to the Rochdale Corporation are excluded from the above statistics. As compared with 1903 the birth and death rates show increases of 2·9 and 3·3 per 1,000 of the population respectively. The zymotic, phthisis, and respiratory rates are also above the rates obtained last year, but the infantile mortality--the lowest recorded since 1894--fell from 125 to 84 per 1,000 births. Measles, whooping cough, and diarrhoea each caused 1 death. Scarlet fever, although not epidemic, was present throughout the year; altogether 48 cases were notified, and one death resulted. Many of the attacks were due to indifference on the part of parents in allowing their children to mix with others whilst in an infective state. Typhoid fever gave rise to 2 cases, diphtheria 3 cases (1 fatal), and erysipelas 1 case.

*Hospital Accommodation.*—The erection of a joint hospital, after much delay, has been commenced.

*Disinfection.*—No apparatus. Houses are disinfected with formaldehyde vapour.

*Water Supply* good and abundant is obtained from the Rochdale Corporation.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and filtration at two outfall works. During the year two 6 inch sewer ventilating shafts have been erected and others are projected. The Authority carry out scavenging in a satisfactory manner.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are clean and in good order, and dairies and cowsheds well kept. Two new cowsheds have been erected. Sixteen notices were served for nuisance abatement, and these have been complied with. Four smoke observations were taken.

**Waterloo-with-Seaforth** —(Area in acres, 952; Estimated Population, 25,863).—*Medical Officer of Health*, W. S. LIMRICK, L.R.C.P.E.; *Salary*, £110.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	25·5 ..	27·2 ..	26·1
Death-rate .....	12·1 ..	9·7 ..	12·1
Zymotic death-rate .....	2·04 ..	0·47 ..	1·41
Phthisis „ .....	0·54 ..	0·43 ..	0·84
Respiratory „ .....	1·97 ..	1·90 ..	2·18
Rate of deaths under 1 year to 1,000 births .....	125 ..	100 ..	131

A reduction in the birth-rate as compared with last year, equal to 1·7 per 1,000 of the population, is accompanied by a rise in the death-rate of 2·4 per 1,000. The zymotic rate was increased 1·57, and the infant rate rose from 100 to 125 per 1,000 births. The sub-district of Waterloo had a birth-rate of 22·14, and a death-rate of 10·98, and in Seaforth the birth-rate was 28·34, and the death-rate 13·06. There were several outbreaks of measles during the year which necessitated school closure. Thirteen deaths were due to this disease, 14 to whooping cough, and 18 to diarrhoea. In consequence of the unusual prevalence of the latter disease, arrangements

were made for the supply of sterilized humanized milk. Depôts were opened in various parts of the district on the 3rd of September, and from that date to the end of the year 15,551 bottles were sold. Dr. Limrick is of opinion that great benefit has resulted from this step. Scarlet fever had a diminished prevalence as compared with 1903, 64 cases being notified with 1 death, against 149 cases 1 death. Thirteen cases occurred in the Waterloo Division, and 51 cases in Seaforth Division. Diphtheria caused 43 cases 4 deaths, typhoid fever 21 cases 3 deaths, erysipelas 19 cases, and typhus fever 1 case. Voluntary notification of phthisis was invited, but only two cases were reported.

*Hospital Accommodation.*—The arrangement to send cases of infectious diseases to the Bootle Corporation hospitals has been cancelled, and a fresh agreement entered into with the Liverpool Corporation. Fifty-three cases received hospital isolation, viz., scarlet fever 26, diphtheria 17, typhoid fever 9, and typhus fever 1. The total cost to the district for these patients was £509 1s. 10d.

*Disinfection.*—The steam apparatus was used 322 times for the disinfection of 4,685 articles, and 164 rooms and 3 schools were fumigated with sulphur.

*Water Supply* obtained from the Liverpool Corporation.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the estuary of the River Mersey. The smoke test was applied to the drains of 576 houses, and many defects were thus discovered which could not have been found by a superficial examination. Scavenging is carried out partly by contract and partly by the Authority.

*Sanitary Inspection.*—A house-to-house visitation has taken place in 17 streets in various parts of the district. One house on the Sandheys Estate was declared unfit for human



habitation and demolished. Bakehouses generally were in a satisfactory condition, verbal intimation securing the necessary limewashing or cleansing. Five underground bakehouses have been closed. There are no common lodging-houses, but certain houses let in lodgings were kept under observation; in eight instances overcrowding was found upon the first visit. The dairies, cowsheds, and milkshops were periodically inspected, and an improvement in their condition noted. In several the lighting, ventilation, and floors have been improved. Overcrowding was discovered in five shippons, the excess number of cows being removed upon verbal notice. The 215 inspections of factories and workshops resulted in 90 defects being discovered, 89 of which were remedied. Three privies were abolished, and water-closets provided in lieu thereof. As in previous years, bacteriological examinations of milk, ice-cream, &c., were carried out, and when samples were found to contain indications of contamination, the attention of the purveyor was drawn to it. The Inspector (Mr. Cannell) reports on the work accomplished in his department, this including, houses inspected 1,112, houses re-inspected 2,016, nuisances abated 2,507, notices served 517, smoke observations 16, &c.

**Westhoughton.**—(Area in acres, 5,560: Estimated Population, 15,217).—*Medical Officer of Health*, F. TYNDALL, L.R.C.P. (Lond.); *Salary*, £50.

Per 1,000 of Population	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	30·6 ..	33·4 ..	35·0
Death-rate .....	16·2 ..	14·6 ..	17·1
Zymotic death-rate.....	2·10 ..	1·93 ..	2·57
Phthisis „ .....	0·92 ..	0·40 ..	0·62
Respiratory „ .....	2·76 ..	2·60 ..	4·00
Rate of deaths under 1 year to 1,000 births .....	164 ..	132 ..	160

The birth-rate, the lowest recorded for 10 years, is



4.4 per 1,000 below the mean of the preceding decade. The general death-rate, zymotic rate, phthisis rate, respiratory rate, and infantile mortality were all in excess of the previous year. Dr. Tyndall says "the services of the District Nurses have had a distinct beneficial effect on the health of the district," and he further suggests, as a means of reducing the infant death-rate, that the local Education Committee might arrange for a course of lectures to women on domestic duties and the proper feeding and care of young children. Measles—the cause of 4 deaths—was prevalent in December and necessitated school closure. Whooping cough also caused 4 deaths, and diarrhœa 12 deaths. Scarlet fever was much less prevalent than in the two preceding years. The cases notified amounted to 59 and the deaths 3, as compared with 130 cases and 7 deaths last year, and 277 cases 12 deaths in 1902. During 1904 North Ward suffered most, but as the Easter holidays were impending the schools were not closed by the Sanitary Authority. Typhoid fever was responsible for 15 cases 5 deaths, diphtheria and membranous croup 11 cases 4 deaths, erysipelas 20 cases 1 death, puerperal fever 6 cases 1 death, and continued fever 2 cases.

*Hospital Accommodation.* — A small-pox hospital—8 beds—is provided, and the joint hospital for ordinary infectious diseases at Fall Birch, Horwich, approaches completion. Westhoughton is one of the constituent Authorities in the scheme for providing a joint small pox hospital for many of the districts in the Wigan neighbourhood.

*Disinfection.*—No proper appliances. Houses are fumigated with sulphur and sprayed.

*Water Supply* good and abundant obtained from the Bolton Corporation.

*Sewerage, Scavenging, &c.*—The district is served by four sections of sewers, and the sewage is treated by chemical precipitation and irrigation on three farms. The effluent from

Roger's Farm has, at times, not satisfied the Mersey and Irwell Joint Committee. Scavenging is carried out partly by the Authority and partly by contract. The emptying of ash-pits on to the back streets, which for the most part are soft and wet, especially in winter, is a constant source of danger to the health of the township.

*Sanitary Inspection.*—Two insanitary houses were demolished. A few back-to-back houses still remain, and many back yards are in an unsatisfactory condition by reason of not being paved. Bakehouses, slaughter-houses, and dairies and cowsheds are, on the whole, in good condition. Only 3 defects were discovered as the result of 158 inspections of factories and workshops. Five privy middens were abolished, the water-carriage system being substituted, and 8 pail closets were also converted to w.c's. The Inspector (Mr. Green) served 122 preliminary or statutory notices for the abatement of nuisances.

**Whitefield** —(Area in aeres, 1,406 ; Estimated Population, 6,790).—*Medical Officer of Health*, A. J. YOUNG, L.R.C.P.E. ; *Salary*, £20 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate .....	24.0 ..	20.0 ..	26.7
Death-rate .....	19.1 ..	13.5 ..	16.3
Zymotic death-rate.....	2.65 ..	1.47 ..	2.44
Phthisis .. .....	0.88 ..	1.62 ..	0.81
Respiratory .. .....	2.79 ..	2.50 ..	2.79
Rate of deaths under 1 year to 1,000 births .....	141 ..	176 ..	152

The birth and death rates are both considerably higher than in 1903, the increases being equal to 4.0 and 5.6 per 1,000 of the population respectively. The zymotic rate is also increased, but the infantile mortality showed a satisfactory diminution. Measles did not cause any fatality, but

9 deaths were ascribed to diarrhœa and 2 to whooping cough. The notifications received numbered 102, viz., small-pox 2, scarlet fever 67 (4 deaths), typhoid fever 4, diphtheria 17 (3 deaths), and erysipelas 12.

*Hospital Accommodation.*—The 2 cases of small-pox were removed to the joint hospital at Ainsworth, and 34 cases of scarlet fever, 8 diphtheria, and 4 typhoid fever were treated in the Florence Nightingale hospital, Bury.

*Disinfection.*—No apparatus. Infected houses were disinfected with formalin, as were the schools during the holidays.

*Water Supply.*—The water—obtained from the Bury Joint Board—is more satisfactory than formerly, and will be still further improved when filtered.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and land filtration. On several occasions the Mersey and Irwell Joint Committee complained of unsatisfactory effluents, and in July legal proceedings were instituted against the District Council. The Clerk informed the Bench that his Authority would at once take in hand a scheme for improving the treatment of the sewage, and on this assurance the case was adjourned. Subsequently application was made to the Local Government Board for the money necessary to extend the outfall works. Scavenging is said to be satisfactorily carried out by the Authority.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are said to be satisfactory, but dairies and cowsheds and factories and workshops are not inspected! The Inspector (Mr. Skinner) served 24 notices for the abatement of nuisances. Three smoke observations were taken.

**Whitworth.**—(Area in acres, 4,485 ; Estimated Population, 9 600).—*Medical Officer of Health*, ALEXANDER WELSH, M.D. ; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	20·8 ..	22·5 ..	22·2
Death-rate .....	19·3 ..	14·3 ..	16·7
Zymotic death-rate.....	2·60 ..	0·30 ..	1·01
Phthisis „ .....	1·87 ..	1·23 ..	1·31
Respiratory „ .....	4·66 ..	2·47 ..	3·86
Rate of deaths under 1 year to 1,000 births .....	160 ..	142 ..	150

The mortality statistics submitted by Dr. Welsh do not compare favourably with those of the preceding year. The general death-rate rose 5·0 per 1,000 of the population, the zymotic rate 2·3, and the phthisis, respiratory, and infant rates were less favourable. Much of the increased mortality was, in the opinion of the Medical Officer of Health, due to “the continued depression in trade from which the district suffered, combined with the increased amount of sickness from infantile diseases.” Under the strain of this depression, and consequent physical suffering, the vitality of the people—old and young alike—has been weakened. There has been a diminished power of resistance to the injurious influences which affect the general health, and also a greater susceptibility on the part of the young to contract disease of an infectious nature. The result has been a corresponding increase in the general and zymotic death rates. Diarrhœa for the second successive year did not cause a single fatality. Measles caused 9 deaths against none in 1903, and whooping cough also contributed 9 fatalities against 1 death in the previous year. On account of the prevalence of the first mentioned disease the infants’ department of five schools were closed. In reference to these ailments Dr. Welsh reports that they are “generally spread by the association of

the sick with the healthy at school, and the alteration made by the Education Authority in the withdrawal of what was termed the 'Epidemic Grant' has seriously increased the risks incurred. It is no common experience for the first intimation of an outbreak in a school to be an application for a 'Closing Order,' on account of the great number of children away through illness. The time for action to stop the spread of disease has passed by, and the application is made to protect the school's financial position. It is also more difficult to exclude from attendance at school, children who are still capable of spreading infectious diseases, and there is the further tendency to press for the earlier return of convalescents." One case of small-pox was notified in Whitworth Ward in April, a man, aged 61 years, who had been away from home for several weeks. The source of infection could not be traced. Scarlet fever gave rise to 17 cases 2 deaths, against 59 cases 1 death in the previous year. Typhoid fever was responsible for 12 cases 3 deaths, diphtheria 4 cases 2 deaths, and erysipelas 11 cases.

*Hospital Accommodation.*—A cottage hospital—12 beds—is available for small-pox. The case referred to was treated here.

*Disinfection.*—No apparatus. Twenty-five houses and schools were fumigated with either sulphur or formalin.

*Water Supply* is obtained chiefly from the Rochdale Corporation. Many old houses, however, continue to use old wells and springs which are liable to intermittent pollution.

*Sewerage, Scavenging, &c.*—Sewage is treated by precipitation and land filtration. Additional sewerage and draining has been carried out during the year, but "there is room and necessity for further attention in this class of work." Scavenging is carried out in a satisfactory manner by the Authority.



*Sanitary Inspection*.—Bakehouses and slaughter-houses are on the whole well kept. The cowsheds are only “fair,” many being improperly constructed, and are not maintained in an efficient sanitary condition. More attention should also be paid to the condition of the udders and teats of the cattle before milking takes place. Thirty-one inspections of factories and workshops revealed 2 defects. The Inspector (Mr. Cordingley) reports on the 236 nuisances which were abated. Notices served numbered 117. One smoke nuisance was dealt with.

**Widnes (Borough).**—(Area in acres, 3,110; Estimated Population, 29,569).—*Medical Officer of Health*, D. U. MACLENNAN M.D.: *Salary*, £200.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	34.1 ..	33.8 ..	33.4
Death rate .....	17.5 ..	15.1 ..	17.6
Zymotic death-rate.....	1.92 ..	1.82 ..	2.28
Phthisis „ .....	0.47 ..	0.23 ..	0.65
Respiratory „ .....	3.17 ..	2.74 ..	4.19
Rate of deaths under 1 year to 1,000 births .....	171 ..	143 ..	175

The birth-rate shows a fractional increase as compared with last year, and is the highest recorded since 1895. The general death-rate rose 2.4 per 1,000, and the zymotic, phthisis, respiratory, and infant rates were higher than in 1903. Measles gave rise to 10 deaths, diarrhoea 20 deaths (including 2 from English cholera), and whooping cough 4 deaths; in the previous year these diseases contributed 2, 9, and 12 deaths respectively. Seven cases of small-pox were notified, 3 in the month of January, 1 each in February and March, and 2 in April. All the persons attacked were removed to hospital, and every precaution



taken in dealing with the outbreaks by prompt isolation and disinfection, also by vaccination and re-vaccination of contacts. Scarlet fever had a much reduced prevalence, only 58 cases being notified with 1 death, as compared with 231 notifications and 7 deaths in 1903. Typhoid fever was responsible for 41 cases and 8 deaths. Investigations were made respecting an outbreak of this disease in the neighbourhood of Cromwell Street and Nelson Street. It was found that many of the houses attacked were provided with deep, wet, and foul ash-pits; the yards badly paved; and other insanitary conditions were noted. Dr. Brebner, the assistant Medical Officer of Health, who made this investigation, states that "typhoid fever has occurred in this district for years, and there is no doubt that the bad state of the sanitary conveniences, if it does not actually cause the outbreaks, contributes largely to them." Diphtheria associated with membranous croup gave rise to 47 cases and 14 deaths. At the request of the Local Government Board a special report was prepared respecting this disease, from which it appears that the majority of the cases occurred in the immediate vicinity of open privies and ashpits. In 2 instances the drainage was found to be defective. Dr. MacLennan states that in many cases he observed cats eating garbage thrown into the open ashpits, and he fears that, having regard to the general tenderness of children towards these animals, a cause of infection may be found in this fact. The remaining notifications were, erysipelas 11, and puerperal fever 3 (2 fatal).

*Hospital Accommodation.*—A hospital for ordinary infectious cases is provided at Crow Wood, and provision is also made for small-pox at Barrow Green, the total number of beds available being 48. The cases removed during the year amounted to 110, namely, small-pox 7, scarlet fever 46, typhoid fever 35, and diphtheria 22.

*Disinfection.*—The steam apparatus was used for the

disinfection of 7,699 infected articles, and 33 rooms were fumigated with either sulphur or formalin.

*Water Supply* derived from deep bore wells in the Keuper sandstone is excellent in quality and abundant.

*Sewerage, Scavenging, &c.*—Sewage is discharged into the estuary of the River Mersey. The sewers have been periodically flushed and repaired where necessary, and the ventilating shafts maintained in good order. The work of refuse removal is carried out satisfactorily under the direction of a special Sub-Committee.

*Sanitary Inspection.*—Under the Housing of the Working Classes Act several dilapidated and insanitary premises were dealt with. Eight were made fit for habitation, and 13 will shortly be demolished. Bakehouses are generally satisfactory and constructed so as to comply with the requirements of the Act. Slaughter-houses and lodging-houses were generally found clean and in a satisfactory condition. Dairies and cow-sheds were inspected, several of the latter being improved as regards ventilation, &c. Two hundred and twenty inspections were made of factories and workshops; the closet accommodation at 7 factories was said to be in a foul and defective state. Each received attention at once, two being converted to the water-carriage system. Fifty-seven canal boats were examined, and found generally satisfactory. Forty-seven privy middens were abolished, and the water-carriage system substituted. Special attention was given to the closet accommodation of the schools in the Borough, which, for the most part, was in clean and satisfactory condition. A few complaints were made respecting obnoxious gases escaping from some of the manufactories, but this nuisance is much less noticeable than in former years. The Inspector (Mr. Lowe) gives details of a large amount of work accomplished in his department, including notices served 335, and nuisances dealt with 1,379. No action was taken with respect to the smoke nuisance.

**Withington.**—(Area in acres, 5,818; Estimated Population, excluding Workhouse, 37,000).—*Medical Officer of Health*, T. C. RAILTON, M.D. (Lond.); *Salary*. £500.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate.....	20·4 ..	20·2 ..	20·5
Death-rate .....	11·8 ..	11·3 ..	11·8
Zymotic death-rate.....	0·67 ..	0·86 ..	0·98
Phthisis „ .....	0·78 ..	1·05 ..	0·88
Respiratory „ .....	2·27 ..	1·27 ..	1·89
Rate of deaths under 1 year to 1,000 births .....	104 ..	105 ..	110

By “The Manchester Corporation Act, 1904,” the whole of this district, on the 9th November, 1904, was transferred to the City of Manchester.

With the consent of the Local Government Board, the Annual Report and statistics have been prepared for the *whole* of the year. As the district, on the date named above, ceased to form part of the Administrative County, I only propose to refer briefly to the principal features of the Report. The mortality averages are again of a satisfactory character, and vary but little from those of the preceding decennial period. The following tabular statement gives the rates for the four sub-divisions :—

	Birth-rate.	Death-rate.	Zymotic rate.	Infantile mortality.
Withington .....	18·5 ..	11·5 ..	0·6 ..	110
Didsbury .....	16·2 ..	10·4 ..	0·4 ..	93
Chorlton-cum-Hardy	24·4 ..	12·8 ..	0·6 ..	105
Burnage .....	33·8 ..	15·6 ..	2·0 ..	104

Measles, whooping cough, and diarrhœa caused 1 death, 9 deaths, and 7 deaths respectively, as compared with 6, 12, and 7 deaths in the preceding year. Small-pox gave rise to 5 attacks, 1 in Chorlton-cum-Hardy, and 4 in the Ladybarn portion of Withington. The first patient had not been anywhere outside the district for a long time before the attack, and it could

only be surmised that she might have contracted the disease from some tramp begging at the door, though if that were the case, it is difficult to explain why no other case of the disease arose in the neighbourhood. The second attack occurred in a young man who was in trade at Stockport, and travelled there every morning, returning home to Ladybarn each evening. The disease was not recognised, and he continued to go to and fro during the whole time of his attack. Subsequently this patient's father and mother became infected, and also a neighbour. Scarlet fever gave rise to 80 cases 3 deaths, against 85 cases 3 deaths last year, and 109 cases 7 deaths in 1902. Typhoid fever contributed 5 cases 2 deaths, diphtheria and membranous croup 28 cases 3 deaths, erysipelas 14 cases 1 death, and puerperal fever 2 cases. Hospital accommodation is provided at Baguley for the ordinary infectious cases, and—jointly with Moss Side—for small-pox at Newall Green. The cases removed for hospital treatment were as follows:—small-pox 4 (1 to Newall Green and 3 to the Clayton hospital, Manchester), scarlet fever 34, typhoid fever 2, diphtheria 7, and erysipelas 1. The abatement of nuisances required 143 notices. Thirty-six smoke observations were taken.

**Withnell.**—(Area in acres, 3,705; Estimated Population, 3,500.)—*Medical Officer of Health*, HENRY CASE, L.R.C.P.E. : *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·2 ..	24·5 ..	24·6
Death-rate .....	12·0 ..	10·0 ..	12·6
Zymotic death-rate .....	0·85 ..	0·28 ..	0·89
Phthisis „ .....	0·85 ..	0·28 ..	0·79
Respiratory „ .....	1·42 ..	2·85 ..	2·24
Rate of deaths under 1 year to 1,000 births .....	141 ..	58 ..	117

Dr. Case reports a birth-rate 2·3 per 1,000 below last

year's average, and an excess in the death-rate equal to 2·0. The infant rate is the highest recorded since 1897. The most noticeable feature of the year was the outbreak of scarlet fever. The disease first appeared in June, and waged with varying intensity until the end of the year. In the month of November, 31 cases were notified, this period being the height of the epidemic. The first case under observation occurred in the Withnell Mill district, contracted, as afterwards discovered, from an unnotified Abbey Village case (the latter case being introduced from Darwen). This child, together with a few more cases from the same district, was removed to hospital, which proceeding effectually stopped the progress of the infection hereabouts. Unfortunately two or three cases were at large unnotified at Abbey Village, and these ultimately gave rise to over fifty cases in this neighbourhood. Altogether 92 cases were notified, but fortunately the disease was very mild and no deaths resulted. School closure was put into operation in two instances. Diphtheria caused 3 cases, erysipelas 9 cases, puerperal fever 1 case (fatal), and diarrhœa 3 deaths.

*Hospital Accommodation.*—The isolation hospital proved to be of immeasurable benefit to the district during the scarlet fever epidemic, 56 cases being removed. By arrangement small-pox cases can be removed to the Blackburn Corporation hospital.

*Disinfection.*—Musgrave's Manchester steam apparatus is available.

*Water Supply* obtained from the Liverpool Corporation waterworks.

*Sewerage, Scavenging, &c.*—The method of sewage treatment is (a) precipitation and polarite beds and irrigation, and (b) double contact beds and irrigation. Scavenging is efficiently performed by the Authority.



*Sanitary Inspection.*—Several houses were demolished mainly because of their close proximity to the reservoirs of the Liverpool Corporation. Slaughter-houses are described as “satisfactory,” and dairies and cowsheds as “fair.” Fifteen visits were paid to factories and workshops, 3 defects being discovered. The Inspector (Mr. Beaver) served 15 notices for the abatement of 25 nuisances. Four smoke observations were taken.

**Worsley.**—(Area in acres, 5,412: Estimated Population, 12,889).—*Medical Officer of Health*, R. SAYERS, M.D.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1904.	1903.	Mean of 9 years, 1895-1903.
Birth-rate .....	26·7 ..	25·1 ..	24·1
Death-rate .....	14·5 ..	14·4 ..	14·3
Zymotic death-rate.....	2·40 ..	1·88 ..	1·80
Phthisis ..	0·93 ..	0·70 ..	0·89
Respiratory ..	2·17 ..	2·19 ..	2·35
Rate of deaths under 1 year to 1,000 births .....	130 ..	137 ..	144

The birth-rate for the year under review—2·6 per 1,000 above the mean of the previous 9 years—is the highest recorded for the district. The death-rate is almost identical with that for last year and with the mean of the years 1895-1903. The Ward death-rates were as follows:—North 17·8, Central 11·1 East 12·9, Worsley 12·7, and Boothstown 16·6. The rate of deaths under one year to 1,000 births is more favourable. Dr. Sayers says:—“North Ward accounts for nearly one-half of the deaths at this age, it always has above its proportion, and I fear it is the same in most places, where you meet with the poorer people you have greater carelessness in the feeding of young children and consequently a higher death-rate.” Measles—the cause of 4 deaths—prevailed in the Wardley portion of the district and necessitated



closure of the schools for a period of 3 weeks. Whooping cough gave rise to 7 deaths and diarrhœa 8 deaths. One case of small-pox was notified, and at once removed to hospital. The source of infection was traced to the mill where the patient found employment, it being ascertained that a girl from Swinton had been working here whilst in an infected state. The owners of the mill took energetic steps to stop the spread, all the hands being vaccinated or re-vaccinated, and the newly-employed required to show a certificate of recent vaccination, with the result that the outbreak quickly subsided. Scarlet fever caused 95 cases and 5 deaths, typhoid fever 12 cases 5 deaths, diphtheria and membranous croup 32 cases 2 deaths, erysipelas 8 cases 1 death, and puerperal fever 2 cases 1 death. The outbreak of diphtheria occurred during the months of January and February in Boothstown, numerous complaints being made as to the insanitary conditions existing in the district affected.

*Hospital Accommodation.*—Small-pox accommodation is provided at Linnyslaw Moss—jointly with Swinton—where the case referred to above was treated. In addition 18 cases were removed to Ladywell (Salford), viz., scarlet fever 16 and typhoid fever 2.

*Disinfection.*—Steam apparatus at sanatorium (Salford) is said to be available.

*Water Supply* obtained from Manchester and Bolton.

*Sewerage, Scavenging, &c.*—The Mersey and Irwell Joint Committee have complained of the unsatisfactory character of the effluents from the Barton Old Hall and the Boothstown sewage works. Plans have been prepared for the addition of three precipitation tanks to the former works, and it is also proposed to set out a further area of land—16 acres in extent—for irrigation purposes. Attention is called to the

insanitary condition of the streets in North Ward, and also to the cesspool through which the drainage from the All Saints' school flows. Scavenging is performed by contract.

*Sanitary Inspection.*—Dairies and cowsheds have been frequently inspected and suggestions made as to improvements and alterations. Bakehouses, slaughter-houses and factories and workshops, on the whole, were found satisfactory. Eighty-one canal boats were examined, 5 infringements of the Act being discovered. The Inspector (Mr. Willcock) reports on the work carried out in his department, which included the following:—letters and notices to abate nuisances 112; drains repaired and cleansed 35; slop-pipes, down-spouts, &c., repaired 33; ashpits reconstructed or repaired 87; total nuisances abated 251; smoke observations 8.

## RURAL DISTRICTS.

**Barton-upon-Irwell.**—(Area in acres, 6,872; Estimated Population, 8,694).—*Medical Officer of Health*, ALBERT E. BERRY, M.D. (Lond.); *Salary*, £60.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	26·5 ..	25·4 ..	25·0
Death-rate .....	16·3 ..	12·7 ..	13·3
Zymotic death-rate .....	2·53 ..	1·76 ..	1·74
Phthisis „ .....	1·03 ..	0·70 ..	0·81
Respiratory „ .....	1·84 ..	1·88 ..	2·30
Rate of deaths under 1 year to 1,000 births .....	160 ..	129 ..	123

The birth-rate shows an increase of 1·1 per 1,000 of the population on last year's average, and is the highest recorded since 1895. The death-rate is 3·6 in excess of 1903, and the zymotic and infant rates are also increased. The latter rate is the highest recorded for the district for ten years. The townships of Barton Moss and Clifton each had a birth-rate equal to 29 per 1,000. Davyhulme 25, and Flixton 24, and the township death-rate varied from 21 in Davyhulme to 18 in Clifton, 13 in Flixton, and 8 in Barton Moss. Measles caused 5 deaths, whooping cough 6 deaths, and diarrhoea 3 deaths. Last year these three diseases combined caused only one death. School closure was deemed necessary in two instances, for whooping cough at Davyhulme and measles at Clifton. Scarlet fever gave rise to 43 cases 1 death, diphtheria 30 cases 7 deaths, typhoid fever 4 cases, and erysipelas 10 cases.

*Hospital Accommodation.*—An arrangement exists by which cases from this district are treated in the Salford

Corporation hospitals. Two beds are reserved for small-pox, and 5 for other infectious diseases. Eighteen cases were removed during the year, viz., scarlet fever 9, and diphtheria 9.

*Disinfection.*—Infected bedding from 41 houses was taken to the steam disinfecting station at Mode Wheel, and 61 houses and 2 schools were disinfected either with sulphur or formaldehyde.

*Water Supply.*—The whole district, excepting a few scattered dwellings, receives water either from Manchester or Bolton.

*Sewerage, Scavenging, &c.*—Sewage is treated on the bacterial system at two works, Clifton and Davyhulme. In October the Mersey and Irwell Joint Committee drew attention to unsatisfactory effluent from the latter works. At Clifton the emptying of ashpits and disposal of house refuse is carried out in a satisfactory manner by a contractor; at Flixton the Council undertakes this work; and at Barton Moss and Davyhulme the occupiers are still liable for this work, and it is said very little difficulty is experienced.

*Sanitary Inspection.*—Bakehouses, on the whole, are in good condition, the necessary alterations having been made to two underground premises. Slaughter-houses, and dairies and cowsheds are also well kept. The sanitary condition of workshops and workplaces has not called for any action. At Clifton, by the reconstruction of the ashpits, and conversion of the privies into water-closets at 35 houses in one block, a great sanitary improvement has been effected. Since the work was completed considerably less sickness has arisen in the property, which had been previously a centre for infectious disease. The Inspector (Mr. Bland) served 81 notices for nuisance abatement. In two instances legal proceedings were instituted before the necessary work was accomplished. Three smoke observations were taken.

**Blackburn.**—(Area in acres. 20,150; Census Population. 8,238).—*Medical Officer of Health.* W. R. POLLARD. L.R.C.P.E.; *Salary.* £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	22·0	24·8	27·1
Death-rate .....	13·8	14·2	16·1
Zymotic death-rate .....	1·45	0·84	1·30
Phthisis „ .....	0·60	0·72	0·77
Respiratory „ .....	2·42	3·39	2·95
Rate of deaths under 1 year to 1,000 births .....	126	107	137

The statistics presented by Dr. Pollard are marked by reductions of 5·1 and 2·3 per 1,000 in the birth and death-rates respectively as compared with the averages of the preceding decennial period. The zymotic rate is higher than usual, the main factor in the increase being 6 deaths from whooping cough against none in the previous year. The infant rate also shows an increase as compared with 1903, but it is below the mean of the 10 years 1894-1903. The birth-rate varied from 33·5 in Ramsgreave, 30·3 in Eccleshill, 26·3 in Billington, 25·8 in Livesey, to 16·8 in Wilpshire, 16·4 in Osbaldeston, 15·1 in Pleasington, 13·2 in Yate and Pickup Bank, and nil in Dinckley and Witton; and the death-rate from 46·5 in Witton, 40·5 in Dinckley, 27·9 in Ramsgreave, 27·6 in Salesbury, 20·1 in Tockholes, to 9·9 in Mellor, 8·7 in Balderstone, 8·6 in Pleasington, and nil in Osbaldeston. During May and June measles attacked a number of school children at Yate and Pickup Bank, Cherry Tree and Feniscowles, and school closure was resorted to at each place. Fortunately only 2 deaths took place from this disease. Diarrhœa did not cause a single fatality. Scarlet fever—39 cases 2 deaths—was prevalent during the months of February, October, November and December, and in each of these months schools

were closed. The remaining notifications were typhoid fever 1 case, diphtheria and membranous croup 5 cases 2 deaths, and erysipelas 1 case.

*Hospital Accommodation.*—Nine cases of scarlet fever were removed to the Blackburn Corporation hospital.

*Disinfection.*—No proper appliances. Houses are fumigated with sulphur.

*Water Supply* obtained partly from Blackburn and partly from private reservoirs and wells.

*Sewerage, Scavenging, &c.*—Sewage is dealt with at five outfall works as follows:—Wilpshire by settlement, filtration, and irrigation; Mellor by crude irrigation; Mellor Brook by closed septic tank and single contact beds; Eccleshill by irrigation; and Pleasington by open septic tanks and irrigation. The scavenging of the district is still left in the hands of owners and tenants.

*Sanitary Inspection.*—Dairies and cowsheds have been periodically inspected, and their sanitary condition is said to be improving. Factories and workshops received constant attention, and with few exceptions were found satisfactory. The Inspector served 34 notices.

**Burnley.**—(Area in acres, 42,325; Estimated Population, 18,000).—*Medical Officer of Health*, THOMAS DEAN, M.D.; *Salary*, £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	21·6 ..	21·5 ..	23·3
Death-rate .....	14·3 ..	12·2 ..	13·5
Zymotic death-rate .....	0·88 ..	0·88 ..	1·43
Phthisis „ .....	0·77 ..	0·64 ..	0·89
Respiratory „ .....	3·61 ..	1·94 ..	2·70
Rate of deaths under 1 year to 1,000 births .....	149 ..	122 ..	118

By the formation of Sabden into a separate township,



which was allocated to the Burnley Union, the area of this district was, on the 1st March, 1904, increased by 1,228 acres, and the population by 880.

The birth-rate remains practically the same as last year, but the death-rate shows an increase of 2·1 per 1,000, and is the highest recorded for the district since 1895. The birth and death rates were highest in the registration district comprising Hapton, Altham, and Huncoat, and lowest in Habergham and Dunnoekshaw. Measles—the cause of 4 deaths—was prevalent at various times during the year, and, in consequence, schools were closed at Foulridge, Worsthorpe, and Huncoat. Diarrhœa also contributed 4 deaths, and whooping cough 3 deaths. Two cases of small-pox were notified; the first a sick man who came from a Cheshire town on a visit to his parents, and developed small-pox. His mother, who nursed him, would not be vaccinated, and she took the disease. Scarlet fever gave rise to 25 cases 1 death. Handbills were distributed giving advice as to the prevention of the spread of the disease, and children from infected houses were forbidden to attend school. The apathy of parents and wilfulness of children were great hindrances in the suppression of this disease. Fourteen cases of typhoid fever occurred, 2 terminating fatally. Four cases at Hapton were caused by insanitary drains and bad water supply. Diphtheria and membranous croup were responsible for 10 cases 2 deaths, erysipelas 9 cases, and puerperal fever 2 deaths but only one notified case.

*Hospital Accommodation.*—The two small-pox cases were removed to the joint hospital at Crown Point, and 15 cases—9 scarlet fever, 5 typhoid fever, and 1 diphtheria—were isolated in the joint sanatorium at Kibble Bank.

*Disinfection.*—In cases where it was deemed necessary infected articles were disinfected by the Burnley Corporation

steam apparatus. Infected houses were fumigated with sulphur or formalin, and also three schools after outbreaks of measles.

*Water Supply.*—Public water supplies are now laid on to the townships of Huncoat, Altham, Read, Old Laund Booth, Barley, Blacko, Briercliffe, Worsthorpe, and Foulridge. Other villages, namely, Dunmoekshaw, Ightenhill Park, Reedley Hallows, and Simonstone rely mainly on private supplies. In January a Local Government Board Inquiry was held respecting an application to borrow £5,000 for purposes of water supply to the several villages in the township of Cliviger, and the work has now been satisfactorily completed, but a large number of the inhabitants have not yet availed themselves of the supply. The unsatisfactory state of the water supply to the village of Goldshaw Booth still continues.

*Sewerage, Scavenging, &c.*—The Surveyor (Mr. Edmondson) reports as follows:—Altham—A new 12-inch sewer has been constructed, 260 yards in length, from New Row to the outfall sewer of the Burnley Corporation. This will remove a long-standing nuisance arising from the defective drainage of the property in that part of the township. The outfall works at Whinney Hill have been better attended to than formerly. Blacko—The sewerage of this village is a matter which will soon require the Council's attention. Briercliffe—The sewerage of Haggate has been completed during the year, 789 yards of 9-inch pipe sewers being laid. Cliviger—Plans have been prepared for the sewerage of the district, including Holme, Walk Mill, Overtown, and Mereelough. Negotiations for a site for the outfall works are not yet concluded. Foulridge—Plans were also prepared and application has been made to the Local Government Board for borrowing powers in respect of sewerage and sewage disposal. Land has been practically secured for the outfall works; the system will be bacterial treatment, with automatic revolving sprinklers.

Goldshaw Booth—The drainage of this district is still unsatisfactory. Habergham Eaves—The drainage of property above Towneley Station is a pressing need. Higham—Plans for the sewerage and sewage disposal works are prepared. Huncoat—The sewerage scheme has been completed during the year, and sewage is now being disposed of by open septic tanks and double contact bacteria beds. Simonstone—A new sewer, 272 yards in length, has been laid between Simonstone Hotel and the main outfall sewer. Worsthorne—A sewerage scheme is prepared for the villages of Worsthorne and Brownside, and negotiations are proceeding for the purchase of land for sewage disposal works. Scavenging: The townships of Hapton, Huncoat, Altham, Worsthorne, Old Laund Booth, Higham, Reedley Hallows, Sabden, Read, and Simonstone are scavenged direct by the Council's men. Blacko, Brunshaw, Briercliffe, Foulridge, and Habergham Eaves are scavenged by contract.

*Sanitary Inspection.*—One house was closed as unfit for human habitation, and notices were issued regarding the closure of 4 others. Bakehouses and slaughter-houses were found in good condition. Inspections of dairies and cowsheds numbered 161; slight infringements, such as want of cleanliness, insufficient ventilation, &c., have been found, and the responsible persons cautioned. Notices, in a few instances, were served respecting defective water supplies, structural defects, &c. Factories and workshops received increased attention, and as a result certain sanitary improvements were effected. The usual inspections of canal boats were made at the Huncoat, Hapton, and Foulridge wharves. The boats examined were in a satisfactory condition. The new portion of Sabden entailed much additional work, the owners of 123 insanitary ashpits and privies having received notices requiring the provision of water-closets and covered ashpits. In many instances the accommodation consisted of an open heap of refuse at the top of the garden, together with an

abominable privy, to which there was no access for the emptying, except through an adjoining farmer's meadow. Two rows of houses in Whalley Road are now undergoing alterations, including the construction of proper back-streets. The provision of sewers at Huncoat and Haggate has enabled the Council to compel the abolition of many insanitary privies and privy tanks permitted to exist hitherto for want of sewers. At the present time there are still 115 pail-closets in Huncoat. This system, although better than the tank, falls short of water-carriage. If pressure could be brought to bear on property owners to do away with these, it would be a decided benefit to the community. The Sanitary Inspectors report on 623 nuisances dealt with, of which number 539 were abated.

**Bury.**—(Area in acres, 12,014; Estimated Population, 8,259).

—*Medical Officer of Health*, J. W. COOK, M.B.; *Salary*, £95.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	19·2 ..	21·7 ..	22·3
Death-rate .....	13·0 ..	15·1 ..	13·8
Zymotic death-rate .....	1·33 ..	0·97 ..	1·28
Phthisis       ,, .....	0·84 ..	0·97 ..	0·65
Respiratory   ,, .....	1·69 ..	2·07 ..	2·94
Rate of deaths under 1 year to 1,000 births.....	157 ..	129 ..	120

As compared with last year the birth and death rates were reduced 2·5 and 2·1 per 1,000 of the population respectively, but the zymotic and infant rates were increased, the latter being the highest recorded for ten years. The township birth-rates were as follows:—Ainsworth 15·2, Birtle-cum-Bamford 23·0, Outwood 24·8, Unsworth 20·4, and Walmsley-cum-Shuttleworth 13·9; and the death-rates—Birtle-cum-Bamford 16·6, Walmsley-cum-Shuttleworth 15·3, Outwood

and Unsworth 13·4 and Ainsworth 7·3. Measles was prevalent in the first and third quarters but, fortunately, only caused 1 death. Four deaths were ascribed to diarrhoea and 2 to whooping cough. One case of small-pox occurred, a tramp who was found in an uninhabited house at Outwood. He was promptly removed to hospital. Scarlet fever was somewhat prevalent throughout the year, 70 cases being notified with 3 deaths. Though at no time did it actually become epidemic there were two distinct waves of prevalence, viz., the first quarter when there were 42 cases, and the third quarter when 19 cases occurred. The disease was mild in character, this no doubt being the cause of its spread, as in some instances the symptoms were not detected until desquamation began. Typhoid fever caused three cases, diphtheria and membranous croup 7 cases 1 death, and erysipelas 7 cases 1 death.

*Hospital Accommodation.*—By Provisional Order this district is combined with Bury C. B. and other neighbouring districts for the provision of hospital accommodation, both for small-pox and the ordinary infectious diseases. The cases removed were as follows:—small-pox 1 (to Ainsworth), scarlet fever 28 and typhoid fever 1 (to Bury).

*Disinfection.*—Steam apparatus at the hospital is available. Ninety-nine rooms were fumigated with either sulphur or formalin.

*Water Supply* is obtained mainly from the Bury and District Joint Water Board. Ainsworth is supplied by the Bolton Corporation, as also is part of Outwood, and the Heywood and Middleton Joint Board supply Bamford. There are, in addition, several private supplies.

*Sewerage, Scavenging, &c.*—Sewage is treated at two outfall works at Unsworth and Prestolee. During the year the Mersey and Irwell Joint Committee instituted proceedings against the Rural Council for pollution caused by them



in the Unsworth and Bamford district, and at the hearing, on September 22nd, it was stated that the necessary plans and estimates for the treatment of the sewage of the district in question had been forwarded to the Local Government Board for approval. The Bench, therefore, adjourned the case until March, 1905. A definite agreement has been entered into with the Bolton Corporation for the treatment of the sewage of Ainsworth and Brightmet. Scavenging, as in previous years, devolves on the owners of property, who make arrangements with local farmers.

*Sanitary Inspection.*—Bakelhouses are said to be clean, and slaughter-houses in good condition. The usual inspection of farms has been carried out, and a very distinct improvement in their sanitary condition was noted. Factories and workshops received attention, several alterations being effected. Twenty-seven canal boats were examined, all except two being in good order. The Inspector (Mr. Hurst) secured the abatement of 164 nuisances, served 68 notices, took 14 smoke observations, &c.

**Chorley.**—(Area in acres. 39,988; Estimated Population, 20,200).—*Medical Officer of Health*, J. A. HARRIS. M.D. (Lond.); *Salary*, £150.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·4 ..	26·3 ..	29·4
Death-rate .....	14·3 ..	14·3 ..	15·4
Zymotic death-rate .....	1·58 ..	1·55 ..	1·17
Phthisis „ .....	0·84 ..	0·90 ..	0·81
Respiratory „ .....	2·37 ..	2·0 ..	2·73
Rate of deaths under 1 year to 1,000 births .....	134 ..	131 ..	132

The statistics presented by Dr. Harris, on the whole, vary but little from those of 1903. The birth-rate—the lowest



recorded for the district—shows a slight reduction, whilst the death-rate remains exactly the same. The death-rates of the sub-divisions were as follows :—Chorley 14·5, Brindle 13·2, Croston 15·3, Leyland 13·9, and Rivington 14·3. The lowest infantile mortality occurred in Brindle and Croston sub-districts, and the highest in Leyland and Rivington. Measles spread widely throughout the district at various periods of the year, and schools were closed at Ulncs Walton, Eccleston, Coppull, Anderton, and Brindle. Whooping cough was also prevalent, and at Brindle school closure was adopted. The former disease contributed 3 deaths, and the latter 11 deaths. Diarrhœa gave rise to 5 deaths. The number of notifications of infectious disease (185) was in excess of those reported in 1903, and also higher than the average number per year in the last decade. Coppull—as in 1903—with 45 notifications produced the most cases; Whittle-le-Woods had 29, Clayton-le-Woods 22, Euxton and Wheelton 20 each, whereas from Cuerden, as in the previous year, Ulncs Walton, and Duxbury no notifications were received. Scarlet fever, with 115 cases 5 deaths, was prevalent during the whole of the year. Schools were closed at Clayton-le-Woods and Cuerden on account of this disease. Fifty-eight per cent. of the patients were removed to hospital and the mortality corresponded to 1·5 per cent., whilst of the cases treated at home 8·3 per cent. had a fatal termination. Typhoid fever contributed 11 cases three deaths, diphtheria and membranous croup 19 cases 4 deaths, erysipelas 38 cases 1 death, puerperal fever 2 cases (both fatal), and continued fever 1 death. The Medical Officer of Health points out that it would be a distinct advantage if he were allowed to procure regularly a supply of fresh diphtheritic antitoxin for the use of medical practitioners.

*Hospital Accommodation.*—Sixty-seven cases were removed to the Chorley, &c., joint hospital at Heath Charnock, viz., scarlet fever 66 and typhoid fever 1. An arrangement

exists whereby cases of small-pox occurring in the Joint Board's districts are admitted into the [Finnington] hospital, belonging to the Blackburn Corporation.

*Disinfection.*—No apparatus. The Chorley Corporation steam appliances can be used in case of small-pox. Eighty-nine houses were linewashed and disinfected after the occurrence of infectious disease.

*Water Supply.*—Coppull is supplied from the Liverpool Corporation mains; Anderton, Heath Charnock, Whittle-le-Woods, Clayton-le-Woods, Heapey and Wheelton from the Thirlmere Aqueduct, belonging to the Manchester Corporation. The question of a public water supply to the townships in the western portion of the district—which are at present very inadequately supplied—from the Thirlmere Aqueduct has again been under consideration, and plans and estimates have been submitted to the Local Government Board.

*Sewerage, Scavenging, &c.*—Sewage works are in operation at Coppull, Euxton, Eccleston, Wheelton, and Whittle. The purification works at Coppull have gradually become too small, and a scheme for their enlargement and improvement has been prepared. Scavenging is described as satisfactory for Coppull only, where the Council have entered into a contract for the regular removal of house refuse, &c. In other townships the householders are responsible for this work, and as might be expected, it is not satisfactorily performed. Dr. Harris recommends his Authority to undertake scavenging, at least in the more populous districts.

*Sanitary Inspection.*—Bakehouses and slaughter-houses are fairly satisfactory. Dairies and cowsheds, although not subject to regulations, were inspected and said to be in a “moderate” condition. Factories and workshops received attention. In two or three instances the closets were found defective, orders being made on the owners

to provide better accommodation. One hundred and sixty-five notices were served for the abatement of nuisances, and practically all were complied with.

**Clitheroe (Lancashire portion).**—(Area in acres, 32,231; Estimated Population, 5,845).—*Medical Officer of Health*, T. THORNTON MACKLIN, M.D., D.P.H.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·0 ..	17·8 ..	21·4
Death-rate .....	14·5 ..	13·0 ..	15·0
Zymotic death-rate.....	0·51 ..	0·89 ..	0·98
Phthisis „ .....	1·88 ..	0·29 ..	0·82
Respiratory „ .....	2·56 ..	2·23 ..	2·72
Rate of deaths under 1 year to 1,000 births .....	54 ..	141 ..	105

By the formation of Sabden into a separate township, which was allocated to the Burnley Union, the area of this district was, on the 1st March, 1904, reduced by 1,228 acres, and a population of 880.

The report for the first six months of the year is prepared by Dr. Counsellor, and that for the latter period by Dr. Macklin. The birth and death rates show increases of 4·2 and 1·5 per 1,000 of the population respectively as compared with last year. The zymotic and infant rates also show reductions. Referring to the low infant mortality, Dr. Macklin says, “if one could feel assured that this was due to an increase of knowledge as to the rearing of infants, then it would be a matter for congratulation, but on the contrary, there is every reason to fear it is purely accidental, and for many years to come children will still continue to be killed by mistaken kindness in the matter of feeding.” Measles gave

rise to 2 deaths, but whooping cough and diarrhoea were non-fatal. Only 7 notifications were received, viz., scarlet fever and typhoid fever 3 each, and diphtheria 1.

*Hospital Accommodation.*—A small hospital (8 beds) is—jointly with Clitheroe (B.) and the Bowland (Yorks.) Rural Council—available for small-pox.

*Disinfection.*—No apparatus.

*Water Supply.*—Special reports have been prepared on the “Chipping water supply,” from which it appears that some improvement is required, but apparently the townships principally concerned are not in favour of taking any efficient action in the matter, and for the present the question has dropped. The other villages in the district are fairly well supplied, though the Whalley water is very hard, and at times very turbid.

*Sewerage, Scavenging, &c.*—Sewage works are in operation at Chatburn (crude irrigation), Barrow (precipitation and irrigation), and Whalley (irrigation). In the less populated districts tanks are available. Scavenging is performed in Chatburn by contract, but in the other districts the householders are responsible for this work.

*Sanitary Inspection.*—Bakehouses and slaughter-houses appear to be well kept, and dairies and cowsheds—reduced from 34 to 30 by the transference of Sabden—are apparently fairly satisfactory. The Sanitary Inspector reports having made 34 inspections of factories and workshops, in the course of which he found no serious defects or irregularities. Improvements have been made during the year at Hurst Green and Whalley as regards privies and ashpits, many having been reconstructed, but there are others which are in a defective state. Seventeen notices were served for the abatement of nuisances.

**Fylde.**—(Area in acres, 38,768 ; Estimated Population, 10,625).—*Medical Officer of Health*, CHARLES COURT, M.B. ; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years. 1894-1903.
Birth-rate .....	25·6 ..	26·7 ..	27·6
Death-rate .....	11·9 ..	14·7 ..	15·1
Zymotic death-rate .....	0·75 ..	1·48 ..	1·28
Phthisis „ .....	0·56 ..	0·83 ..	0·95
Respiratory „ .....	1·60 ..	1·86 ..	2·06
Rate of deaths under 1 year to 1,000 births .....	98 ..	125 ..	117

The birth-rate is again reduced, and gives the lowest record for 10 years. The death-rate, zymotic, phthisis, respiratory, and infant rates are also below the averages of 1903 and of the preceding decennial period. Measles was prevalent throughout the year, and necessitated school closure, but, fortunately, the disease was of a mild type, and no deaths resulted. Diarrhœa contributed 5 deaths, and scarlet fever, typhoid fever, and diphtheria 1 death each. Twenty notifications were received, viz., small-pox 1, scarlet fever 13, typhoid fever 2, diphtheria 2, membranous croup 1, and erysipelas 1. The small-pox case occurred in Freekleton, and was promptly removed to hospital. The origin was traced to the patient coming in contact with an infected person in a dispensary in Preston. One case of typhoid fever at Freekleton was due to the bad water supply, and diphtheria cases at Carleton and Freekleton were caused by defective drainage.

*Hospital Accommodation* is available for small-pox at the Elswick joint hospital, and for other infectious diseases at Moss Side (Fylde joint). Twelve cases were removed during the year, viz., small-pox 1, scarlet fever 8, typhoid fever 1, diphtheria 1, and membranous croup 1.



*Disinfection.*—No apparatus. Eighteen houses and 2 schools were fumigated.

*Water Supply.*—The greater part of the district is supplied by the Fylde Water Board. The mains were extended during the year in Marton, and arrangements have been made for a supply to be laid on to Greenhalgh. It is to be regretted that some arrangement cannot be made for the supply of Fylde water to the districts of Treales and Wharles. Here the inhabitants have to use for drinking purposes water which is quite unfit for use, in one case derived from a surface water drain, and others rely on water of a doubtful character from wells situated a considerable distance from the houses. When it is mentioned that a school with over 70 pupils has absolutely no water supply, having to depend on water of indifferent quality, obtained from a neighbouring farm, it will give some idea of the state of affairs in this neighbourhood.

*Sewerage, Scavenging, &c.*—Sewerage schemes are in operation at Wesham and Freckleton, the remainder of the district draining into tanks and ditches. The Spen Dyke at Marton has again received attention, and the weather during the summer months being fine, the water was very low in the brook, and afforded an excellent opportunity of cleaning, which was taken advantage of, and the dyke placed in good order. Scavenging is performed by contract in Wesham only; in the other districts the householders are held responsible for this work.

*Sanitary Inspection.*—Five houses were condemned as unfit for human habitation, viz., two cottages at Wrea Green, two in Freckleton, and a farmhouse at Marton. Bake-houses have, as usual, been well kept, and have given no cause for complaint, and slaughter-houses, on the whole, were found well cared for, although complaints had to be made



regarding premises at Carleton and Marton. Dairies and cowsheds are fairly satisfactory, but some want improving; one farmstead was condemned as totally unfit for use. Ten inspections of factories and workshops were made, no serious defects being noted. The Inspector (Mr. Jolly) reports on 1,268 premises inspected. He secured the abatement of 93 nuisances, served 60 notices, took 2 smoke observations, &c.

**Garstang.**—(Area in acres, 57,380; Estimated Population, 10,437). — *Medical Officer of Health*, THOMAS FISHER, M.R.C.S; *Salary*, £70.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903
Birth-rate .....	21·0	25·6	23·2
Death-rate .....	13·3	13·7	13·4
Zymotic death-rate .....	0·95	0·57	0·62
Phthisis „ .....	0·38	0·67	0·67
Respiratory „ .....	2·39	1·34	2·29
Rate of deaths under 1 year to 1,000 births .....	118	59	87

The birth and death rates are reduced 4·6 and 0·4 per 1,000 of the population respectively, as compared with last year, the birth-rate being the lowest recorded since 1898. The zymotic and infant rates are increased, the latter being the highest for the district since 1897, and exactly double the rate for last year. The township death-rates varied from 29·30 in Kirkland, 24·11 in Forton, 22·69 in Out Rawcliffe, 17·77 in Inskip-with-Sowerby, 17·60 in Winmarleigh, to 4·73 in Myerscough, 1·70 in Barnacre-with-Bonds, and nil in Bleasdale, Cabus, Cleveley, Holleth, and Bilsborrow. Whooping cough with 5 deaths was the most fatal of the zymotic diseases, and school closure was resorted to in the attempt to prevent its spread. Measles and diarrhoea, as in 1903, did not cause a single fatality. One case of small-pox occurred,

the disease being discovered in the vagrant ward of the workhouse. Prompt removal to hospital took place. The patient having been in the common lodging-house at Garstang, all the occupants were quarantined and re-vaccinated; no further outbreak took place. Scarlet fever with 18 cases 1 death chiefly attacked Great Ecclestone and Forton. At the first-named township the school was closed. Typhoid fever gave rise to 5 cases, diphtheria 4 cases (all fatal), and erysipelas 3 cases. With one exception the diphtheria cases were associated with sanitary defects. The Council invite medical practitioners to voluntarily notify cases of phthisis.

*Hospital Accommodation.*—No provision is made for ordinary infectious diseases. Accommodation for small-pox is provided at Elswick, where the case above referred to was treated.

*Disinfection.*—No apparatus. Eighteen houses and one school were fumigated.

*Water Supply*—The Special Water Committee formed to carry out a conjoint scheme to provide a good and wholesome supply of water have, unfortunately, been unable to arrange satisfactory terms with the Fylde Water Board.

*Sewerage, Scavenging, &c.*—The sewage works on the south side of Bowgreave, in the township of Barnacre-with-Bonds, continue to give satisfaction. The works on the north side of Bowgreave are not satisfactorily conducted. The question of the sewerage of the township of Hambleton, which has long been a source of trouble, received attention during the year, and it was decided that steps be taken to carry out a small and inexpensive scheme which will abate the nuisances now existing; plans, &c., to carry out this suggestion are in course of preparation. Scavenging of Garstang is carried out in a satisfactory manner by contract, and the

Council's employees do the work in Calder Vale. The advisability of the Council undertaking the scavenging of the most congested places in the district is again recommended.

*Sanitary Inspection.*—Six houses were dealt with under the Housing of the Working Classes Act. Backhouses have been periodically inspected, and with one exception—insufficient ventilation, which has now been remedied—were found to be in good condition. Slaughter-houses appear to be clean and well kept. During the year one lodging-house was closed as quite unfit for its purpose. Dairies and cowsheds are described as “very variable,” few, if any, complying with sanitary requirements. Factories and workshops were inspected, and 53 canal boats underwent examination. The Inspector (Mr. Cook) served 138 notices for the abatement of 357 nuisances.

**Lancaster.**—(Area in acres, 54,503: Estimated Population, 8,893).—*Medical Officer of Health*, G. R. PARKER, L.R.C.P.; *Salary*, £50.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	22·3 ..	25·4 ..	27·3
Death-rate .....	12·1 ..	14·2 ..	15·0
Zymotic death-rate .....	0·89 ..	0·33 ..	1·23
Phthisis „ .....	0·78 ..	0·78 ..	1·05
Respiratory „ .....	1·79 ..	0·78 ..	2·16
Rate of deaths under 1 year to 1,000 births .....	105 ..	110 ..	119

The death-rate—the lowest recorded—is 2·1 per 1,000 below last year's rate; there was also a decrease equal to 3·1 in the birth-rate. The infantile mortality compares

favourably with preceding years. The rates of the sub-districts were as follows :—

	Birth-rate.		Death-rate.		Zymotic rate.		Infantile Mortality.
Lancaster ..	17·47	..	19·41	..	nil.	..	111
Heaton ....	28·23	..	11·88	..	nil.	..	105
Warton ....	23·25	..	12·46	..	0·71	..	72
Ellel .....	20·93	..	10·75	..	1·41	..	148

Measles gave rise to only 1 death, but on account of the prevalence of this disease the school at Galgate had to be closed for a short period. Diarrhœa contributed 3 deaths. The notifiable diseases (67) have occurred in a similar degree as in 1903. The number is in excess of the usual incidence of this class of disease, and is almost entirely due to the continued prevalence of scarlet fever in Warton sub-district. Fifty-three of the 55 notified cases occurred in Warton, and were probably caused by the attendance at school of an unnotified case. Two deaths occurred. The schools in this township and at Yealand were closed. Typhoid fever gave rise to 4 cases 1 death, diphtheria 2 cases 1 death, erysipelas 5 cases, and puerperal fever 1 case.

*Hospital Accommodation.*—Ten cases of scarlet fever were removed to the Lancaster Corporation Sanatorium.

*Disinfection.*—Dr. Parker reports :—“ I do not yet seem to have convinced this Authority of the usefulness of a steam disinfecter and the need for providing one. The need is very real,”

*Water Supply.*—The inhabitants of Galgate continue to appreciate their water supply as evidenced by the increasing number of people who use it. The water supply of Cockerham and Thurnham is still in the same unsatisfactory condition, it having been found impossible to come to terms with the Fylde Water Board for the supply of Cockerham. Negotiations have, for the present, been abandoned.

Badly as a decent potable water is required in Thurnham, no attempt has been made to provide one, the inhabitants being very indifferent about it. In Warton the supply to the higher part of the village has been improved, and the hamlet may be said to be well provided with water of good quality. The village of Bolton is supplied with Lancaster Corporation water. No public supply has yet been provided for Silverdale, and this is unfortunate, seeing that many visitors resort to the village, believing that the health conditions are free from objection. The supply to Priest Hutton remains the same—liable to contamination.

*Sewerage, Scavenging, &c.*—The seven separate sewerage systems under the control of the Authority, Dr. Parker says, remain the same as last year, viz., “none of them can be described as satisfactory.” Efforts have been made to alter the systems at Warton and Galgate; plans were prepared, and now await the sanction of the Local Government Board. Bolton sewer is now acting satisfactorily, but there is still a nuisance at the outfall at Sandside. No contract has, as yet, been entered into for the scavenging and removal of refuse at Bolton. During the year the old tip at the hollow near the canal bridge and St. Michael’s Grove, which was at times offensive, has been done away with, and a new one provided in a field abutting on St. Nicholas Lane. In Yealand also the removal of refuse is in the hands of the householders, no contract having been entered into for this purpose, although powers were obtained some years ago. The scavenging and removal of refuse at Galgate, Warton, and Thurnham is carried out by contractors.

*Sanitary Inspection.*—Systematic inspection of the district has been carried out. The villages of Galgate, Glasson Dock, Thurnham, Slyne, Warton, Silverdale, and Bolton have all been visited. The district generally contains many sanitary defects which should have been remedied long ago. These



have been pointed out by Dr. Parker many times in his various reports. Bakehouses are in fair condition, and slaughter-houses are kept much better than formerly. All have now a water supply. One new slaughter-house was erected at Slyne. The only common lodging-house in the district is at Warton, and this is well conducted and satisfactory. Dairy and cowshed regulations have now been in force more than 12 months, but registration proceeds very slowly. "The cowsheds are dirty, filthy places, and very insanitary. Young stock are, as a rule, kept in dark unwholesome dens, which seem specially designed for spreading tuberculosis." Factories and workshops came under observation, and 12 canal boats were examined. The nuisances remedied during the year amounted to 75, to secure the abatement of which 26 notices were required.

It appears that the work requiring the special attention of the Council in 1905, is as follows:—the sewerage systems of Warton, Galgate, and Glasson Dock, and the water supplies of Cockerham, Thurnham, and Silverdale.

**Leigh.**—(Area in acres, 11,574 ; Estimated Population, 8,870).—*Medical Officer of Health*, C. CHALLINOR, L.R.C.P. (Lond.) ; D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	33·9 ..	34·1 ..	32·7
Death-rate .....	16·7 ..	16·6 ..	16·6
Zymotic death-rate.....	1·91 ..	2·56 ..	2·01
Phthisis       ,, .....	0·11 ..	0·46 ..	0·79
Respiratory   ,, .....	4·50 ..	2·91 ..	3·22
Rate of deaths under 1 year to 1,000 births.....	142 ..	136 ..	142

The birth and death rates for the year under review approximate very closely to those of 1903. The zymotic



rate is reduced 0·65 per 1,000, but the infantile mortality is slightly less favourable. The highest birth-rate was attained in the September quarter (39·2) and the lowest in the December quarter (30·6), while March quarter had the greater death-rate (20·6) and June quarter the least (12·6). The averages of the four sub-divisions are set out below:—

	Birth- rate.		Death- rate.		Zymotic rate.		Infantile Mortality.
Lowton . . . .	41·04	..	17·26	..	1·95	..	141
Kenyon . . . .	5·35	..	8·92	..	nil	..	nil
Astley . . . .	42·06	..	20·34	..	2·06	..	155
Culcheth....	20·97	..	13·67	..	2·13	..	122

Only one death was ascribed to measles, but owing to the spread of this disease in Glazebury, in April, school closure was resorted to. Nine deaths were ascribed to diarrhœa, and 3 to whooping cough. Scarlet fever gave rise to 113 cases with 3 deaths. Astley produced 70 attacks, Lowton 41, and Culcheth 2. The schools at Lowton were closed for three weeks in January. In one instance a child in the “peeling” stage was allowed to attend school. and this no doubt was the cause of other attacks. The parent was summoned before the Council and cautioned. The other infectious cases were, typhoid fever 6, diphtheria and membranous croup 7 (1 fatal), erysipelas 11, and puerperal fever 3.

*Hospital Accomodation.*—Eighty-three cases were removed to the joint hospital at Astley, viz., scarlet fever 82, and typhoid fever 1. The same difficulty arose as in 1903, *i.e.*, the hospital being full and unable to receive all the cases requiring hospital isolation.

*Disinfection.*—No apparatus. Ninety-five houses were fumigated.

*Water Supply* is obtained as follows:—for Lowton and Kenyon, from Liverpool; Astley from Manchester, and Culcheth from Warrington. Outlying parts of the district rely on wells, some of which are not free from suspieion.

*Sewerage, Scavenging, &c.*—Outfall works—tank treatment with sprinkler filters—are in operation at Lowton Common; on two occasions, April and September, the Mersey and Irwell Joint Committee complained of unsatisfactory effluents. The tanks and filter beds at Lower Green, Astley, are approaching completion, and in this neighbourhood a new sewer, 627 yards in length, has been constructed. Settling tanks are provided for Culeheth. Scavenging is performed by arrangement with farmers and householders.

*Sanitary Inspection.*—One house in Kenyon was condemned as dangerous and unfit for habitation, and one in Culeheth was closed. Bakehouses and slaughter-houses appear to be in good condition. Dairies and cowsheds were kept under supervision, 22 notices being required for sanitary improvements. Factories and workshops on the whole gave satisfaction. Canal boats examined numbered 203. The Inspector served 293 notices for the abatement of nuisances, and in 3 instances instituted legal proceedings.

**Limehurst.**—(Area in acres 4,772; Estimated Population, 10,700).—*Medical Officer of Health.* THOMAS COOKE, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·1 ..	26·7 ..	31·2
Death-rate .....	14·9 ..	15·4 ..	17·5
Zymotic death-rate.....	2·33 ..	1·25 ..	1·67
Phthisis „ .....	0·65 ..	0·77 ..	1·33
Respiratory „ .....	3·27 ..	2·51 ..	3·18
Rate of deaths under 1 year to 1,000 births .....	141 ..	173 ..	146

The birth-rate—the lowest recorded for the last 10 years—is 1·6 below the rate for 1903, and 6·1 lower than

the mean of the preceding decennial period. The death-rate, 0·5 per 1,000 of the population below that of the previous year, is 2·6 less than the average of the 10 years 1894-1903. The zymotic rate shows an increase of 1·08 over the rate for 1903, while the rate of deaths under 1 year is reduced 32 per 1,000 births. Measles caused 9 fatalities, whooping cough 3 and diarrhœa 5. Scarlet fever was prevalent generally throughout the year, and necessitated the closing of four schools, there being 47 cases notified with 3 deaths. Small-pox, the cause of 12 cases 2 deaths, appeared in the townships of Bardsley (5), Waterloo (5), and Cross Bank (2). The whole of the diphtheria cases (14 with 2 deaths) occurred at the commencement of the year. Typhoid fever contributed 3 cases 1 death, and erysipelas 1 case.

*Hospital Accommodation.*—The 12 cases of small-pox were removed to the hospital of the adjoining Borough. A small-pox hospital jointly with Ashton-under-Lyne (B.) and other neighbouring Authorities is being erected.

*Disinfection.*—No apparatus. Houses and clothing are fumigated with sulphur.

*Water Supply* pure, is obtained mainly from the Ashton-under-Lyne, &c., joint waterworks, and partly from the Oldham Corporation. A very small area is dependent upon springs and wells.

*Sewerage, Scavenging, &c.*—Three sewage works are in use for the contributory districts of Bardsley, Cross Bank, and Waterloo. A number of house connections have been made, but this work is not yet completed. A scheme for dealing with the drainage of the districts of Little Moss and Woodhouse is in course of preparation. Scavenging as carried out by the Authority gives satisfaction.

*Sanitary Inspection.*—Bakelhouses and slaughter-houses are described as “good,” the latter, 3 in number, being kept under strict supervision. Dairies and cowsheds are somewhat dilapidated but clean. Inspections of factories and workshops numbered 116: no defects were found. The Inspector (Mr. Turner) served 475 notices and secured the abatement of 411 nuisances.

**Lunesdale.**—(Area in acres, 76,267; Census Population, 6,948).—*Medical Officer of Health*, W. H. STOTT, L.R.C.P.E.; *Salary*, £20.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	24·6 ..	20·8 ..	23·0
Death-rate .....	12·3 ..	13·9 ..	13·5
Zymotic death-rate .....	0·43 ..	0·71 ..	0·86
Phthisis .. .....	0·71 ..	0·57 ..	0·81
Respiratory .. .....	1·29 ..	1·29 ..	1·63
Rate of deaths under 1 year to 1,000 births .....	70 ..	82 ..	100

The statistics presented by Dr. Stott show that the birth-rate has risen 3·8 per 1,000 above the rate for the previous year. It was the highest recorded since 1899, and exceeds by 1·6 the mean of the 10 years 1894-1903. The rates for the sub-districts were—Arkholme 26·2, Wray 25·6, Caton 24·4, and Tunstall 17·2. The death-rate, as compared with 1903, was reduced 1·6 per 1,000. Of the four sub-districts Wray produced the highest rate with 18·2, and Tunstall the lowest with 5·7. The death-rate from the seven principal zymotic diseases was 0·28 lower than the previous year, and also the lowest recorded for the past 10 years. The infant rate was 12 per 1,000 births lower than 1903, and 30 less than the 10 years' average. Measles—notifiable in the district—was the cause of 44 cases 1 death; owing to its prevalence in the summer

months. Brookhouse school was closed. An outbreak of scarlet fever in the latter half of the year gave rise to 27 cases; on account of this disease the schools in Whittington and Halton were closed. Dr. Stott does not put much faith in school closure as preventing the spread of infection, unless the Sanitary Authorities receive the co-operation of parents. No deaths from whooping cough or diarrhœa occurred. Eleven cases and 1 death were attributed to typhoid fever, most of the cases notified being in Halton and the Kellets. The remaining notifications were, diphtheria 1 case (fatal), and erysipelas 1 case.

*Hospital Accommodation* is provided at Farleton, near Hornby. No cases were removed.

*Disinfection*.—No apparatus.

*Water Supply*.—An efficient supply for Whittington has been provided. The schemes for supplying Melling and Leek are still under consideration, delay being caused owing to the possibility of a stream being polluted on Melling Moor, from which it was intended to obtain water. A supply from the Hornby Castle estate can, however, be obtained which will meet the demands of the village.

*Sewerage, Scavenging, &c.*—The District Council are endeavouring to improve the system of sewage disposal in the east end of Caton, and the question of obtaining land for the purpose is under the consideration of the Local Government Board. The sewerage schemes for Halton, Hornby, and Wray are fairly satisfactory. Scavenging gives satisfaction. In the parishes of Halton, Wray, and Hornby the work is carried out “voluntarily;” in Caton the Parish Council undertake this work.

*Sanitary Inspection*.—The 5 slaughter-houses are in a satisfactory condition, and comply with the bye-laws. There has been no contravention of the Canal Boats Acts. The



two factories in Caton and Halton have been regularly visited during the year, and no defects were found. Regulations with regard to dairies and cowsheds, &c., have not yet been adopted. No details are given of the work done by the Sanitary Inspector.

**Preston.**—(Area in acres, 52,929; Census Population, excluding Institutions, 15,997).—*Medical Officer of Health*, CHARLES J. TRIMBLE, L.R.C.P.E., D.P.H.; *Salary*, £75.

Per 1,000 of Population.	1901.		1903.		Mean of 10 years, 1894-1903.
Birth-rate .....	25·8	..	25·6	..	25·7
Death-rate .....	15·1	..	14·2	..	14·9
Zymotic death-rate .....	0·81	..	0·87	..	1·07
Phthisis .. .. .	0·81	..	0·62	..	0·74
Respiratory „ .. .	2·25	..	2·56	..	2·75
Rate of deaths under 1 year to 1,000 births .....	94	..	121	..	128

For some years the birth and death rates of this rural district have varied very little, and the rates for 1904 are almost identical with the averages for the 10 years 1894-1903. The township birth and death rates are as follows, the birth-rate being given first:—Farington 23·44, 14·46; Longton 24·61, 18·75; Much Hoole 28·84, 19·23; Little Hoole 33·93, 15·96; Hutton 21·53, 21·53; Howick 19·80, 9·90; Penwortham 25·76, 12·68; Samlesbury 23·25, 15·11; Cuerdale 39·21, nil; Lea, Ashton, Ingol, and Cottam 33·61, 9·80; Goosnargh 28·48, 23·39; Broughton 21·10, 11·36; Barton 18·91, 11·82; Haighton 18·31, 21·97; Woodplumpton 19·03, 16·55; Whittingham 37·26, 16·14; Ribchester 22·63, 9·70; Dutton 30·56, 13·10; Hothersall 28·16, 21·12; Grimsargh 41·94, 17·66; Elston and Ribbleson 24·0, nil. Despite the fact that the year under review produced some exceptionally diffuse epidemics of measles and whooping cough, and that scarlet fever was



strongly in evidence, yet the zymotic rate compares favourably with previous years, and the infantile mortality is considerably reduced. Measles, although the cause of only 1 death, exhibited a fairly persistent tendency to remain in the district during nine months of the year. In February it broke out at Ribchester, and necessitated school closure. During May the disease appeared at Middleforth, but no extensive development occurred. Woodplumpton suffered from an extended outbreak also in May, so much so that the school had to be closed. Schools were also closed at Catforth and Lea in June, and Broughton in September, to stay its spread. Whooping cough of a severe type broke out at Much Hoole in October, some 102 children being affected, but fortunately only 1 death resulted. The school here was closed for a month. Diarrhœa was accredited with 3 fatalities. One case of small-pox occurred in December; the source of infection could not be traced. Chicken-pox appeared in Barton in June, and as it was feared the disease might become epidemic, the school was closed for the summer holidays. Scarlet fever—32 cases 1 death—never assumed a serious epidemic tendency, yet the disease exhibited a vitality which was by no means reassuring. Typhoid fever was responsible for 14 cases 2 deaths, diphtheria, associated with membranous croup, 13 cases 2 deaths, and erysipelas 9 cases 1 death. Last year Dr. Trimble advocated the voluntary notification of phthisis, but during 1904 not a single case was reported.

*Hospital Accommodation.*—The joint infectious hospital at Fulwood is practically complete. The case of small-pox was isolated in the joint small-pox hospital at Elswick.

*Disinfection.*—No apparatus. Seventy-eight houses were fumigated with sulphur.

*Water Supply.*—Further extensions of water supplies have taken place. A scheme for providing Farington with

water at an estimated cost of £1,800 is now waiting the sanction of the Local Government Board. Plans for a scheme to supply Samlesbury are also before the Board. Portions of the townships north of the Ribble are supplied by the Fulwood Council, and year by year an increasing number of houses have good and wholesome water laid on. The districts of Lea, Ashton, Ingol, and Cottam are in want of a better supply, but difficulties are in the way of such supply being obtained. Schemes have also been under consideration for Ribchester and Charnock Moss.

*Sewerage, Scavenging, &c.*—The plant put down for treating the sewage of Ribchester village has for some time past not given very satisfactory results, and improvements are contemplated. The scheme now awaits an Inquiry by the Local Government Board. The sewage works for Grim-sargh have been outgrown by the erection of house property, and an enlargement scheme has now been devised which it is hoped will meet the requirements of the locality. At Broughton the septic tank has ceased to efficiently discharge its duty, and the Council have the matter under consideration. The new sewerage and sewage disposal works at Farington appear to yield satisfactory results. A sewerage scheme for Penwortham, estimated to cost about £11,000, is in progress. In several of the townships the respective Parochial Committees carry out scavenging.

*Sanitary Inspection.*—It is reported that year by year the sanitary state of this rural area improves. Bake-houses are fairly satisfactory, and slaughter-houses clean and well cared for. Many old cowsheds do not give satisfaction, but new buildings are made to comply with the regulations. One farmhouse was condemned. Factories (17), workshops (36), and domestic workplaces (12) came under observation, and 17 canal boats were examined. The Inspector (Mr. Asheroft) served 105 notices requiring nuisance abatement.

**Sefton.**—(Area in acres, 16,949 ; Estimated Population, 11,260). — *Medical Officer of Health*, J. C. BRADSHAW. L.R.C.P.E., D.P.H. ; *Salary*, £100.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	33·1 ..	28·8 ..	24·1
Death-rate .....	14·6 ..	13·7 ..	13·3
Zymotic death-rate .....	2·30 ..	1·59 ..	1·15
Phthisis „ .....	0·62 ..	1·15 ..	1·19 .
Respiratory „ .....	[2·57 ..	1·95 ..	2·31
Rate of deaths under 1 year to 1,000 births .....	152 ..	138 ..	116

The steady increase in the birth-rate still continues, the rate for 1904 being 4·3 in excess of last year, and as much as 9·0 above the average of the 10 years 1894-1903. The death-rate is 0·9 above the preceding year, and 1·3 per 1,000 above the mean of the past decade. The zymotic rate has risen, and is double the rate of the last ten years, while the deaths of infants under 1 year to 1,000 births shows an increase of 14 as compared with 1903. Dr. Bradshaw says that this increase is due to a severe and fatal outbreak of epidemic diarrhœa in the summer. Measles accounted for 4 deaths and necessitated school closure. Diarrhœa caused 16 deaths, and scarlet fever—most prevalent in Fazakerley, Orrell and Ford—gave rise to 50 cases 2 deaths. The latter disease was prevalent all the year except December. Typhoid fever—12 cases 3 deaths—was confined to Fazakerley (4), Orrell and Ford (7—3 fatal), and Lunt (1). The other notifications were diphtheria and membranous croup 9 cases 1 death, erysipelas 4 cases, and relapsing fever 1 case.

*Hospital Accommodation.*—A cottage hospital with 14 beds is available at Kirkby, but this was not used during the year. An arrangement with Liverpool Corporation exists

whereby cases of infectious disease can be treated at their hospitals. Twenty-seven cases of scarlet fever, 6 cases of diphtheria, and 1 case of typhoid fever were removed.

*Disinfection.*—As formerly, bedding, clothing, &c., are disinfected by the Liverpool officials.

*Water Supply* obtained mainly from Liverpool Corporation and partly from wells. Samples of water were taken from wells at Sefton and found to be unfit for drinking purposes. Arrangements are, however, complete for the extension of the Liverpool mains to this parish. The water obtained from the wells in Lunt is described as “bad.”

*Sewerage, Scavenging, &c.*—The township of Fazakerley is practically all drained into the Liverpool sewers. The drainage of Orrell is in a “most unsatisfactory condition,” and Dr. Bradshaw says that a new and systematic sewage plan should be adopted. The septic tank for Kirkby Park does its work well. Scavenging is satisfactorily carried out in West Derby by contract, but in the other townships the householders are responsible.

*Sanitary Inspection.*—Under “The Housing of the Working Classes Act” 2 houses were condemned as unfit for human habitation and closed. The new property, known as Thorburn’s Estate, off Longmoor Lane, still causes some trouble. The back passages are not properly paved, and accumulations of water and filth are frequently found. The so-called septic tank, which was made by the owners with a view to draining the houses, is not used, and should now be done away with, as it is not in a sanitary condition, and is likely to be a danger to health. Lodging-houses—existing only in West Derby—are inspected and said to be kept clean and not overcrowded. Dairies and cowsheds and factories and workshops are periodically visited, and, on the whole, kept satisfactorily. A Magistrates’ Order was obtained

to close a place in West Derby used for breeding and rearing pigs, which had for some time caused an intolerable nuisance. Seventy-seven notices for nuisance abatement were served and all were remedied. No smoke observations were taken.

**Ulverston.**—(Area in aeres, 127,871: Census Population. 17,716).—*Medical Officer of Health*, G. H. PATTERSON. M.R.C.S., D.P.H.; *Salary*, £200.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	23·8 ..	22·9 ..	22·5
Death-rate .....	13·4 ..	13·1 ..	13·1
Zymotic death-rate .....	0·67 ..	0·84 ..	0·66
Phthisis       ,, .....	1·07 ..	1·24 ..	0·85
Respiratory   ,, .....	2·25 ..	1·12 ..	1·66
Rate of deaths under 1 year to 1,000 births .....	96 ..	73 ..	82

The birth-rate for the year under review is 0·9 per 1,000 of the population above last year's rate, and the highest recorded since 1891. The death-rate shows a slight increase on the rate for 1903, whilst the rate of deaths under 1 year to 1,000 births, although low, has also increased. The divisional rates were as follows:—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Cartmel .....	26·1 ..	15·6 ..	0·23 ..	98
Hawkshead ..	25·8 ..	11·2 ..	0·28 ..	65
High Furness..	21·3 ..	15·9 ..	0·67 ..	189
Low Furness..	22·8 ..	11·3 ..	1·1 ..	48

Measles, with 5 deaths was the most fatal of the zymotic diseases, and school closure had to be resorted to at Pennington, Lindale, Allithwaite, Browedge, and Haverthwaite. Whooping cough gave rise to 2 deaths, and diarrhœa 1 death. Scarlet fever (121 cases 2 deaths) had an extensive prevalence throughout the whole of the year, especially in



the township of Pennington, where, during the first six months, the schools were scarcely ever open. The prevalence of the disease also necessitated school closure in Cartmel, Sawrey, and Torver. Typhoid fever contributed 10 cases 1 death. Four of these cases occurred at Gleaston, and in the previous year this village also contributed the majority of the cases; a better water supply has now been provided in place of the one which was found to be polluted. Diphtheria was the cause of 29 cases 1 death, the Low Furness district being the most attacked. Erysipelas gave rise to 24 cases and puerperal fever 1 case.

*Hospital Accommodation.*—Forty-five cases were removed to the joint hospital at High Carley, viz., scarlet fever 33, typhoid fever 1, and diphtheria 11.

*Disinfection.*—No apparatus. Forty-eight houses were fumigated.

*Water Supply.*—Cartmel Division:—The schemes for the supply of water to the village of Lindale and the hamlet of Headhouse have been completed. The supply to the village of Flookburgh is far from satisfactory. Hawkshead Division:—A dispute which delayed the provision of a supply for Colthouse has now been settled, and the new water service to Hawkshead is completed. Investigations for the improvement of the supply to Satterthwaite are in progress. High Furness Division:—The scheme prepared for the supply of water to Coniston is at present in abeyance. Low Furness Division:—The Medical Officer of Health recommends that the villages of Bayeliffe and Scales be supplied by extending the main from Urswick. The village of Leece relies upon shallow wells for its water supply, and recent examinations have proved that these wells are polluted.

*Sewerage, Scavenging, &c.*—Cartmel Division:—The sewerage scheme for the upper portion of Backbarrow has



been satisfactorily carried out, and the sewage of the village of Holker now discharges into the Cark sewer. The scheme for the drainage of a group of houses in the lower portion of the village of Lindale has been suspended, but as there is urgent need for some better method of sewage disposal for the houses in question, it is hoped that the matter will again come forward for early consideration. High Furness Division :—The sewerage schemes for Coniston and Sandside have been completed during the year. Low Furness Division :—A considerable portion of the work of drainage of Gleaston has been carried out. Scavenging—undertaken in some parts of the district by the Authority—is said to be fairly satisfactory.

*Sanitary Inspection*—Bakehouses and slaughter-houses are described as “fair,” and dairies and cowsheds “generally unsatisfactory.” A Special Committee has been formed to meet bi-monthly, and by this means it is hoped to secure a regular and systematic inspection of the dairies and cowsheds. The Divisional Inspectors (Messrs. Brocklesby, Hudson, Ellwood, and Gardner) report that 912 premises were examined respecting nuisances, 173 notices served, &c.; 11 privy middens were converted to the water carriage system.

**Warrington.**—(Area in acres, 19,360 : Estimated Population, excluding County Asylum, 11,708).—*Medical Officer of Health*, R. SEPHTON, L.R.C.P.E. ; *Salary*, £150.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	25·1 ..	26·9 ..	27·8
Death-rate .....	12·2 ..	13·1 ..	13·2
Zymotic death-rate .....	2·39 ..	1·05 ..	1·56
Phthisis „ .....	0·59 ..	0·79 ..	0·78
Respiratory „ .....	1·96 ..	2·45 ..	2·16
Rate of deaths under 1 year to 1,000 births .....	152 ..	110 ..	116

The population of the Asylum at Winwick (nearly 3,000) and

the deaths occurring there (288) are excluded from the above statistics. As compared with 1903, the birth and death rates show reductions of 1·8 and 0·9 per 1,000 of the population respectively, but the zymotic and infant rates are considerably increased. The averages of the three sub-divisions are as follows :—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Sankey . . . . .	24·7 ..	13·3 ..	3·9	} 152
Winwick . . . . .	34·4 ..	8·7 ..	2·1	
Rixton . . . . .	17·8 ..	10·3 ..	0·9	

Measles broke out in Penketh in March, and necessitated school closure. Four of the cases proved fatal. Whooping cough was accountable for 5 deaths. An epidemic of this disease, accompanied with chicken-pox, occurred at Rixton-with-Glazebrook in November and December, but it was not thought necessary to close the schools as the Christmas holidays were impending. Diarrhœa caused 15 deaths, 13 being under the age of one year. As usual, improper feeding produced much sickness. One case of small-pox occurred at Sankey—a young man who caught the infection whilst working in a field near the small-pox hospital, which was at the time occupied by small-pox patients from other districts. Seventy-eight cases of scarlet fever were notified, against 40 last year. One case proved fatal. The schools at Winwick were closed for 3 weeks on account of the prevalence of this disease amongst the scholars. Typhoid fever was accredited with 11 cases 3 deaths, diphtheria and membranous croup 3 cases 2 deaths, erysipelas 18 cases, and puerperal fever 1 case (fatal).

*Hospital Accommodation.*—The Warrington Corporation continue to receive into their hospital cases from this district “when they have room,” but, unfortunately, owing to the requirements of the Borough very little accommodation is left for outside districts. Only 3 cases were removed, viz., small-pox 1 and scarlet fever 2.

*Disinfection.*—The hospital steam apparatus is available.

*Water Supply.*—The greater portion of the district is supplied by the Warrington Corporation: the less populated places rely on wells.

*Sewerage, Scavenging, &c.*—The sewage works at Burtonwood continue to “do satisfactory work.” An arrangement is under consideration by which the sewage of Fearnhead and Poulton will be received into the Warrington sewers. Scavenging is undertaken by contract.

*Sanitary Inspection.*—The district has been systematically inspected. Bakehouses, slaughter-houses, lodging-houses, and dairies and cowsheds are all described as “satisfactory.” Sixteen factories and 38 workshops have been frequently visited and examined as regards cleanliness, air space, sanitary condition, &c. No serious defects were discovered. Thirty canal boats were examined, and several minor infringements of the Acts noted. The Inspector (Mr. Kerfoot) reports on 182 nuisances dealt with.

**West Lancashire.**—(Area in acres, 69,051; Estimated Population, 27,950).—*Medical Officer of Health*, G. E. SCHOLEFIELD, M.D., D.P.H.; *Salary*, £450

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.	
Birth-rate .....	22·7	22·2	..	24·9
Death-rate .....	13·2	12·6	..	14·0
Zymotic death-rate .....	1·0	0·83	..	1·13
Phthisis „ .....	0·85	0·80	..	1·0
Respiratory „ .....	2·03	1·38	..	2·32
Rate of deaths under 1 year to 1,000 births .....	119	98	..	122

The mortality statistics presented by Dr. Scholefield, although fractionally higher than last year, compare favourably

with the averages for the ten years 1894-1903. The birth-rate is 0·5 above the rate for 1903, but 2·2 below the ten years' average. The following tabular statement gives the rates for each of the townships in the rural district:—

	Birth- rate.	Death- rate.	Zymotic rate.	Infantile Mortality.
Ainsdale .....	27·12 ..	16·95 ..	2·03 ..	175
Altcar.....	19·01 ..	20·91 ..	3·80 ..	100
Aughton .....	22·64 ..	11·32 ..	1·89 ..	83
Bickerstaffe .....	24·16 ..	9·48 ..	0·47 ..	145
Bispham .....	26·24 ..	17·49 ..	nil. ..	111
Downholland .....	19·56 ..	13·94 ..	nil. ..	71
Formby .....	18·40 ..	12·77 ..	0·16 ..	185
Halsall .....	27·92 ..	9·05 ..	0·75 ..	108
Hesketh .....	29·82 ..	13·87 ..	1·98 ..	100
Lydiat .....	17·24 ..	9·57 ..	0·95 ..	55
Maghull .....	21·43 ..	18·83 ..	2·59 ..	242
Melling .....	29·02 ..	15·54 ..	2·07 ..	143
North Meols .....	29·89 ..	6·81 ..	nil. ..	70
Rufford .....	16·86 ..	14·26 ..	nil. ..	nil.
Scarisbrick .....	19·04 ..	15·34 ..	nil. ..	119
Simonswood .....	16·66 ..	8·33 ..	5·55 ..	166
Tarleton .....	27·93 ..	13·34 ..	1·03 ..	111

Measles is notified voluntarily in this district, and 386 cases were reported as occurring in 256 houses, against 262 cases in 1903. Nine deaths resulted, against 2 in the previous year. The disease first appeared in Tarleton in April, and subsequently, with varying intensity, spread over a considerable number of the townships. Schools were closed in consequence at Tarleton, Banks, Ainsdale (twice), Aughton (twice), and Melling. In other districts exclusion from school of children from infected houses sufficed. Whooping cough was much more prevalent than in 1903, Aughton and Hesketh being the districts most affected; in both of them school closure was resorted to. Altogether 6 deaths were due

to whooping cough, and 97 cases in 64 houses were voluntarily notified. Diarrhœa—less prevalent than usual—caused 8 deaths. There was a considerable increase in the number of cases of scarlet fever, 115, with 2 deaths, occurring in 1904, as compared with 54 cases no death in 1903. The townships most attacked were North Meols 34 cases, Formby 28 cases, and Aughton 22 cases. In the latter district the disease was largely spread through one of the schools, two children at different periods being found desquamating. The outbreak in the township of North Meols was of such a nature that it was found necessary to close the school at Banks. Many cases were not notified, and in others “peeling” had commenced before the parents understood the necessity of action. Special leaflets were issued pointing out the responsibility and liability of householders in respect of notification, &c. Typhoid fever was responsible for 14 cases 3 deaths, and diphtheria 3 cases. One of the typhoid fever cases was probably due to drinking water from a well which had been condemned as unfit for use, and one case of diphtheria occurred in a man who had been working at unloading manure from a boat, and who lived on premises which were in a very filthy condition. Erysipelas contributed 10 cases (3 fatal).

*Hospital Accommodation.*—Holly House, Aughton—formerly a country residence—was used for the isolation of 66 patients, viz., scarlet fever 61, typhoid fever 4, and diphtheria 1. A tent hospital is available for small-pox.

*Disinfection.*—The “Thresh” steam apparatus was used 116 times for the disinfection of 7,510 articles, and 512 rooms were fumigated after infectious disease.

*Water Supply.*—The district is, on the whole, well supplied with water of excellent quality. The Southport Waterworks Company have sunk two wells in the township of Aughton, and from this source a large portion of the district is supplied. The water is hard, but otherwise of good quality, and the



quantity is unlimited. Other supplies are obtained from the Preston Rural District and from wells. The water mains have been extended at Aughton, Ainsdale, Formby, Halsall, Searisbrick, and Altcar. Seventeen samples of well water were examined, only 2 of which were satisfactory.

*Sewerage, Scavenging, &c.*—Aughton—The sewage from the southern area is carried to outfall works at the south-west of the township; it is received into four closed tanks, and subsequently flows on to land for treatment by downward filtration. The sewage works have been improved by further under-draining of land, &c. The sewage from the northern area is, by agreement, discharged into the Ormskirk sewers. Ainsdale—The question of sewerage for this township is still in abeyance, until the proposed transference of this area to the Birkdale Urban District receives the sanction of the Local Government Board. Bickerstaffe—A small portion of this township, which is in close proximity to Ormskirk, is connected to the sewer of that district. Formby—The work in connection with the laying of sewers was commenced early in the year, and a fair amount of progress has been made. Searisbrick—Negotiations are in progress with respect to connecting the sewerage of a portion of this district to the Ormskirk system. In other parts of the Rural Council's area the cesspool system with its attendant disadvantages, is in vogue. Scavenging is performed by contract in Ainsdale, and in the greater portion of Aughton. At Formby the Parochial Committee supervise this work. In other townships scavenging is left to the householders.

*Sanitary Inspection.*—Systematic visiting, as in previous years, has been going on throughout 1904. The house accommodation is, on the whole, fair, but there are in some parts low, ill-ventilated houses in existence. Efforts are being made to make these houses more habitable. Four houses were dealt with under the Housing of the Working Classes Act.



Bakehouses, slaughter-houses, and lodging-houses were generally found in a satisfactory condition, and, with four exceptions, the same may be said of dairies and cowsheds. Many of the premises used as factories or workshops were not suited for their purpose without considerable alteration. Over 300 visits were paid to these places, and it is satisfactory to note that the defects were, as a rule, remedied immediately after attention was drawn thereto. Forty-two canal boats were examined. The Inspectors (Messrs. Peach and Bond) report on the sanitary work accomplished in each township. Altogether 571 nuisances were abated, and the notices served amounted to 243.

**Whiston.**—(Area in acres. 31,281; Estimated Population, excluding Institutions, 19,820).—*Medical Officer of Health*, EGERTON F. HALL, M.D.; *Salary*, £150.

Per 1,000 of Population.	1904.	1903.	Mean of 19 years, 1894-1903.
Birth-rate .....	26.1 ..	25.5 ..	26.4
Death-rate .....	12.2 ..	12.0 ..	12.5
Zymotic death-rate .....	2.32 ..	1.20 ..	1.45
Phthisis .. ..	0.85 ..	0.60 ..	0.70
Respiratory .. ..	2.42 ..	2.16 ..	2.33
Rate of deaths under 1 year to 1,000 births .....	121 ..	86 ..	117

As compared with the previous year, the birth and death rates are increased 0.6 and 0.2 per 1,000 of the population respectively. The zymotic rate is almost doubled, the increase being due to the exceptionally large number of deaths from diarrhoea (17), measles (13), and whooping cough (7). Last year these diseases caused 7, 0, and 2 deaths respectively. In July it was found necessary to close the schools at Rainhill on account of an outbreak of measles. Small-pox gave rise to 7 cases (1 fatal), 2 in January, 1 in March, 2 in

April, 1 in July, and 1 in August. The first person attacked was supposed to have caught the infection at Sankey hospital, and the second had been in contact with him. In two other cases the infection was probably contracted at Dewsbury, one caught it at Liverpool, and another was thought to have become infected by contact with a person in a lodging-house at Widnes. With one exception—treated at home—the cases received prompt hospital isolation. Scarlet fever gave rise to 78 cases 5 deaths. The townships of Knowsley, Halewood, and Whiston suffered most. At the first mentioned township it was found very difficult to stamp out the disease, and school closure was resorted to. The schools at Carr Mill were also closed on account of this disease. Diphtheria and membranous croup contributed 19 cases 2 deaths, typhoid fever 3 cases 1 death, and erysipelas 10 cases.

*Hospital Accommodation* is provided both for small-pox and the ordinary infectious diseases. The cases removed were as follows: small-pox 6, scarlet fever 43, and diphtheria 1.

*Disinfection*.—Steam apparatus available. Eighty-three houses were fumigated after infectious disease.

*Water Supply* is obtained from the Liverpool and Widnes Corporations, and from local sources at Rainhill and Whiston. For some years the township of Bold has been in need of a better supply; recently a Sub-Committee was formed to consider this question. The water supply to certain cottages at Rainhill was found, on analysis, to be unfit for use.

*Sewerage, Scavenging, &c.*—The subsidence tanks at Eccleston have “worked well;” the sewage farm at Rainhill is said to be “in excellent order,” and the sewage works at Whiston have during the year been considerably improved. Scavenging is said to be carried out satisfactorily.

*Sanitary Inspection*.—Two houses were closed as unfit for human habitation. Bakehouses and slaughter-houses

are described as “good,” and dairies and cowsheds appear to be well kept. Twenty-seven workshops and one factory came under observation, few defects being discovered. The report gives an account of the sanitary condition generally of each of the townships at the end of the year, from which it appears that seventy-three nuisances were abated.

**Wigan.**—(Area in acres, 11,695; Estimated Population, 6,506).—*Medical Officer of Health*, J. H. WILSON, M.D.; *Salary*, £80.

Per 1,000 of Population.	1904.	1903.	Mean of 10 years, 1894-1903.
Birth-rate .....	30·1 ..	27·9 ..	31·3
Death-rate .....	15·9 ..	14·9 ..	16·0
Zymotic death-rate .....	0·92 ..	0·93 ..	1·78
Phthisis „ .....	0·92 ..	0·31 ..	0·97
Respiratory „ .....	3·07 ..	2·96 ..	3·55
Rate of deaths under 1 year to 1,000 births .....	122 ..	145 ..	131

The birth and death rates are higher than in 1903, but the rate of deaths under 1 year to 1,000 births has decreased from 145 to 122. Parbold had the highest birth-rate with 36·66; Shevington came next with 33·44; Wrightington, 29·67; Haigh, 27·36; Worthington, 26·11; and Dalton, 20·59. The death-rate varied from 25·17 in Dalton to 8·33 in Parbold. Measles was epidemic in various portions of the district almost the whole of the year, and 4 deaths resulted. It was considered necessary to close six schools to check the spread of this disease. Dr. Wilson states that, in his opinion, “school closure is the only effectual way of dealing with an outbreak of measles amongst children, and in my experience is very effective in this direction.” Scarlet fever was the cause of 15 cases 1 death, typhoid 2 cases (both at Wrightington), diphtheria and membranous croup 4 cases 1 death, erysipelas 11 cases 1 death, and continued fever 3 cases.

*Hospital Accommodation.*—A temporary hospital (6 beds) is available for small-pox, and it may be added that this district is one of the constituent authorities under the order of the County Council for providing a small-pox hospital for many of the districts in the neighbourhood.

*Disinfection.*—No apparatus: houses, clothing, &c., are fumigated with sulphur.

*Water Supply.*—The public supplies for Shevington, Appley Bridge, and part of Wrightington, Haigh, and Parbold are of good quality and constant. The Hilledale portion of Wrightington has been supplied from the Parbold service reservoir. The water for the townships of Dalton and Worthington is drawn from wells, and plentiful.

*Sewerage, Scavenging, &c.*—The sewerage scheme for Haigh has received the sanction of the Local Government Board. Arrangements have been made with the Wigan Corporation to treat sewage from Parbold, Shevington, and Wrightington at the Corporation outfall works. In other parts of the district the sewage drains into cesspools or open watercourses. Scavenging, carried out by contract, is described as satisfactory.

*Sanitary Inspection.*—Bakehouses are said to be “good,” slaughter-houses (2) “well kept,” dairies and cowsheds “fair.” The latter are not subject to regulations. Factories and workshops received ten inspections and were found to be well drained and lighted, and efficiently ventilated. Canal boats—42 in number—underwent inspection, and, with one exception, proved to be in good condition. Special attention was paid to uncovered, wet privy middens, many being reconstructed or improved. Twenty-eight notices were served for the abatement of nuisances.

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## \*EXTRACT FROM THE METEOROLOGICAL REPORT

BY THE

REV. W. SIDGREAVES, S.J., F.R.A.S.,

*Of Stonyhurst College Observatory.*SUMMARY OF OBSERVATIONS  
FOR 1904.

Results of Observations taken during the Year.		Mean for the last 57 years.
Mean Reading of the Barometer ...	29·537in.	29·494in.
Highest „ on Jan. 22nd	30·338in.	30·286in.
Lowest „ on Feb. 9th	28·314in.	28·252in.
Range of Barometer Readings... ..	2·024in.	2·034in.
Highest Reading of a Max. Therm. on August 3rd ... ..	78·4	81·8
Lowest Reading of a Min. Therm. on December 21st and 23rd ... ..	21·5	15·4
Range of Thermometer Readings ...	56·9	66·4
Mean of all the Highest Readings ...	52·3	54·8
Mean of all the Lowest Readings ...	42·0	40·7
Mean Daily Range ... ..	10·3	14·1
Deduced Yearly Mean (from Mean of Max. and Min.) ... ..	47·2	46·9
Mean Temperature from Dry Bulb ...	46·7	46·8
Adopted Mean Temperature ... ..	47·0	46·9
Mean Temperature of Evaporation ...	44·5	44·5
Mean Temperature of Dew Point ...	41·8	42·1
Mean elastic force of Vapour ... ..	0·274in.	0·273in.
Mean weight of Vapour in a cubic foot of air ... ..	3·1gr.	3·3gr.
Mean additional weight required for saturation ... ..	0·7gr.	0·7gr.
Mean degree of Humidity (saturation 1·00)	0·83	0·83
Mean weight of a cubic foot of air ...	540·0gr.	539·2gr.
Total fall of rain in the year ... ..	39·636in.	46·938in.
Number of days per month on which rain fell ... ..	17·0	18·4

The Maximum monthly mean height of the Barometer  
was in February, 1891, and was ... .. 29·997in.  
The Minimum „ „ in December, 1868, and was 28·984in.  
The Maximum yearly mean height of the Barometer  
was in 1896, and was ... .. 29·584in.

\* Introduced by kind permission.



The Minimum yearly mean height of the Barometer was in 1886, and was	... ..	29·389in.
The greatest monthly range of the Barometer was in January, 1884, and was	... ..	2·409in.
The least " " in July, 1852, and was	... ..	0·505in.
The highest reading of the Barometer during 57 years was on January 9th, 1896, and was	... ..	30·597in.
The lowest " " on Dec. 8th, 1886, and was	... ..	27·350in.
Extreme range ... ..	... ..	3·247in.
The highest temperature was on July 20th, 1901, and was	... ..	89·0
The lowest " " January 15th, 1881...	... ..	4·0
The highest adopted mean temperature of a month, July, 1901, and was...	... ..	63·2
The lowest " " " February, 1855...	... ..	28·6
The highest adopted mean temperature of a year, 1868	... ..	49·1
The lowest " " " " " 1879	... ..	44·1
The greatest monthly mean weight of vapour in a cubic foot of air, July, 1852	... ..	5·1gr.
The least " " " February, 1855 and 1895...	... ..	1·4gr.
The greatest fall of rain in a month was in October, 1870, and was	... ..	13·437in.
The least " " " " May, 1859...	... ..	0·249in.
The greatest number of days on which rain fell in one month, Jan., 1872, Oct., 1873, Dec., 1868	... ..	31
The least " " " " March, 1852	... ..	3
The greatest fall of rain in one year in 1866	... ..	62·183in.
The least " " " " 1887	... ..	31·250in.
The greatest number of days in one year on which rain fell	... ..	319
The least " " " " 1855	... ..	148

## SUMMARY OF WIND.

No. of days in the year on which the prevailing wind was	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
	37	37	35	15	51	44	136	11
Mean velocity in miles per hour ...	7·1	7·5	8·5	9·7	10·0	11·1	11·5	10·0
Total No. of miles for each direction...	5076	6645	7173	3477	12241	11672	37578	2644

The total No. of miles registered during the year was 86,506.

The max. Velocity of the wind was 50 miles per hour, on January 29th, at 11 p.m., April 10th, at noon, and December 30th, at 9 a.m. Dir. S.S.W., W. b. S., and W. respectively.



## TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

1904.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	...	1.5	0	0	0	0	0	0	1.1	0.2	0	0	1.5	0.7	1.4	4.2	0.9
February	...	0.9	0	0.5	0	0	3.8	0	0	3.3	2.2	0	0.9	0.2	0.6	3.1	1.2
March ...	...	4.7	0	0	0.2	0	3.3	0	0.2	9.5	7.0	0	0.2	0	6.2	0	0
April ...	...	4.5	1.3	6.8	4.8	2.3	7.2	8.6	0.5	6.9	8.4	7.4	4.0	0	0	8.4	6.5
May ...	...	5.1	8.0	8.8	11.0	0	6.5	0.3	0	2.7	2.8	5.6	2.7	7.8	8.6	9.3	8.1
June ...	...	2.2	0.3	13.2	15.3	14.0	9.8	1.3	7.2	12.0	9.1	12.4	0	2.6	1.0	8.4	10.3
July ...	...	7.4	10.5	11.3	0.7	0.7	0.7	13.2	12.0	13.1	13.2	15.0	9.5	8.7	0	10.7	8.5
August...	...	8.9	6.5	12.9	0.7	11.0	4.0	11.2	13.2	5.7	9.4	2.4	2.8	6.8	7.2	7.7	0
September	...	0.4	3.0	9.7	7.3	4.4	4.9	6.9	0	9.4	8.9	10.9	7.9	1.2	2.9	1.7	8.4
October	...	6.5	2.7	10.0	2.5	0	1.6	2.9	8.3	0.1	5.0	0.4	8.2	4.4	7.2	0	1.6
November	...	0	0	0	0	1.2	4.5	0	1.5	0	0	0	5.0	4.1	4.7	3.4	0
December	...	0	0	0	0	2.3	1.9	0.8	6.0	0	0	0.5	1.7	0	0	0.3	0

## TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

(Continued.)

1904.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total.	Per centage each month
January ...	...	0	0	0	5.2	0	0	0.6	0	0.8	1.1	1.7	4.1	0	25.0	10.1
February ...	...	6.7	0	1.0	0	5.2	0	0	0	0	4.3	0.7	0	0	34.6	12.3
March ...	...	1.0	0	0	7.5	0	10.7	6.3	0.7	0	4.5	0	5.5	6.9	75.1	20.5
April ...	...	9.8	10.5	0.8	10.7	0.8	5.1	5.8	11.1	4.3	1.4	0.8	0.3	7.9	155.2	37.0
May ...	...	9.0	13.1	10.7	0	0	1.0	0.8	0.9	3.5	0	4.5	4.4	2.4	139.8	28.4
June ...	...	7.1	1.5	5.6	5.0	2.6	11.1	0.4	5.7	10.6	12.3	13.4	12.0	9.5	226.0	44.5
July ...	...	13.8	12.8	0.2	4.8	3.6	1.5	4.4	0.2	0.2	2.9	3.4	3.4	1.6	207.2	40.7
August...	...	4.2	2.4	11.5	1.1	0	2.0	3.3	0.9	1.8	8.3	9.4	11.2	5.7	184.8	40.4
September	...	11.6	9.7	10.1	5.7	0.5	5.4	2.5	3.2	6.3	5.5	0.9	5.0	0	153.9	40.6
October	...	...	0	0	0	7.5	7.8	0	5.0	0.7	4.2	0	5.3	5.0	106.3	32.6
November	...	...	0	4.3	1.2	2.8	1.2	3.7	0.5	5.7	0	2.9	0	0	51.7	20.2
December	...	3.2	0	0	0	2.7	0	0	0	1.9	0	0	0	3.1	26.4	11.4

# VITAL STATISTICS.

**TABLE I.—DEATHS** registered during the year 1904 in the **URBAN DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rate during the year.

NOTES.—(a) The Area and Population of each District are taken from the Census Return.

(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.			Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1904.	Registered Births.	Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Pneumonia Death- rate.	Respi- ratory Death- rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
ABRAM .....	1984	6306	6660	205	30.7	19.2	2.70	1.05	3.15	200	41	16	5	5	45	16
ACCINGTON (Borough) ..	3427	43122	44300	1003	22.6	15.7	1.58	1.24	3.36	148	149	70	22	33	276	149
ADLINGTON .....	1062	4523	4665	114	24.4	14.7	1.71	0.64	2.78	219	25	3	3	6	20	12
ALLERTON .....	1589	1101	1101	30	27.2	9.0	0.90	Nil.	0.90	33	1	..	2	1	4	2
ASHTON-IN-MARKFIELD ..	6251	18687	20021	752	37.5	13.8	2.64	0.39	2.54	154	116	40	12	7	62	40
ASHTON-UNDER-LYNE (Borough) .....	1346	43890	44541	1203	27.0	17.3	1.77	0.94	2.85	172	207	83	27	14	289	153
ASPULL .....	1906	8388	8388	327	38.9	18.0	1.66	0.71	5.36	149	49	10	9	4	54	25
ATHERTON .....	2265	16211	17500	544	31.0	15.7	3.25	0.97	2.28	172	94	43	21	15	72	30
AUDENSHAW .....	1241	7216	7511	200	26.6	14.3	1.73	0.93	1.99	150	30	10	4	2	36	26
BACUP (Borough) .....	6120	22505	22500	509	22.6	16.9	1.77	0.71	3.37	145	74	48	18	9	140	92
BARROWFORD .....	1385	4959	5000	103	20.6	12.8	2.00	0.40	3.40	116	12	11	1	3	26	11

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births	Mortality from all causes at unjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phtisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
BILLINGE .....	4596	4232	4350	116	26·6	16·0	2·52	0·68	3·67	206	70	24	11	..	3	21	11
BIRKDALE .....	2699	14197	15000	295	19·6	13·7	1·06	1·20	2·40	125	206	37	13	9	5	85	57
BISPHAM-WITH-NORBRECK ..	1346	985	1435	25	17·4	14·6	0·69	1·39	1·39	240	21	6	1	1	4	4	5
*BLACKPOOL (Borough) ..	3601	47348	54338	914	22·4	14·2	1·32	0·99	1·69	148	578	136	51	22	12	237	120
BLACKROD .....	2392	3875	3900	114	29·2	18·4	2·82	0·25	4·87	175	72	20	9	5	4	16	18
BRIERFIELD .....	807	7288	7600	174	22·8	15·7	2·50	1·05	5·13	149	120	26	28	5	4	37	20
CARNFORTH .....	1505	3040	3100	83	26·7	10·6	0·32	0·64	2·58	132	33	11	4	1	2	8	7
CHADDETON.....	3082	24892	25800	670	25·9	17·9	1·97	1·51	3·17	152	463	102	73	16	17	163	92
CHILDWALL .....	830	219	220	5	22·7	13·6	Nil.	Nil.	9·09	Nil.	3	..	1	..	..	2	..
CHORLEY (Borough) ....	3614	26852	28500	782	27·4	16·0	0·94	0·73	2·94	170	458	133	45	17	14	153	96
CHURCH .....	529	6463	6700	182	27·1	16·1	2·53	0·44	4·02	192	108	35	9	4	2	34	24
CLAYTON-LE-MOORS ....	1059	8153	8500	231	27·1	16·5	2·82	0·47	3·05	151	141	35	22	5	4	42	33
CLITHEROE (Borough) ..	2385	11414	11550	282	24·4	16·7	2·16	0·69	2·42	138	193	39	37	2	7	51	57
COLNE (Borough) .....	5063	23000	23000	592	25·7	14·0	1·60	1·30	2·39	163	323	97	37	11	11	112	55
CROMPTON .....	2865	13427	13500	311	23·0	17·9	1·77	1·25	2·88	183	242	57	26	7	11	82	59

\* Blackpool became a County Borough on the 1st October, 1904. Statistics refer to nine months only.





TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Consul. 1901.	Estimate to middle of 1901.		Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Phthisis Death- rate.	Respi- ratory Death- rate.		All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
HASLINGDEN (Borough) ..	8196	18543	18743	366	19.5	14.0	1.81	0.69	2.40	147	264	54	36	6	9	99	60
HAYDOCK .....	2411	8575	9500	376	39.5	18.1	3.57	0.42	4.31	159	172	60	24	7	7	42	32
HEATON NORMUS .....	1619	9392	10497	171	16.2	10.2	0.85	0.19	1.90	122	108	21	11	2	3	36	35
HEYSHAM .....	1835	3381	3381	60	17.7	13.3	0.88	0.59	1.18	216	45	13	5	..	..	17	10
HEYWOOD (Borough) .....	3660	25458	26143	561	21.4	19.8	3.06	1.53	3.71	215	519	121	66	18	22	192	100
HINDLEY .....	2612	23504	25054	802	32.0	19.6	3.55	0.47	4.43	184	492	148	92	30	24	133	65
HORWICH .....	3257	15084	15873	464	29.2	13.6	1.32	0.63	2.33	122	217	57	44	9	10	69	28
HURST .....	638	7145	7300	191	26.1	17.5	1.23	1.23	3.56	194	128	37	15	2	8	38	28
HUYTON-WITH-ROBY .....	3053	4661	4661	120	25.7	10.9	Nil.	0.64	2.36	83	51	10	6	1	1	17	16
INCE-IN-MAKERFIELD .....	2320	21262	22450	826	36.7	20.6	3.51	0.62	5.70	226	464	187	83	18	18	116	42
IRLAM .....	4620	4335	4700	144	30.6	18.5	4.04	1.06	2.55	90	87	13	18	1	3	29	23
KEARSLEY .....	1005	9218	9500	257	27.0	18.0	3.15	0.73	3.05	229	171	59	35	7	4	42	24
KIRKHAM .....	857	3693	3711	97	26.1	17.7	0.53	1.61	3.23	103	66	10	5	3	6	22	20
LANCASTER (Borough) ..	3506	40329	43570	1067	24.4	13.0	0.96	1.05	1.60	153	567	164	59	19	20	165	139
LATHAM AND BURSROUGH ..	12660	7113	7446	215	28.8	15.7	2.01	1.20	2.82	172	117	37	10	4	7	27	32
LEES .....	203	3621	3681	85	23.0	17.6	1.90	0.54	3.25	188	65	16	5	3	2	23	16

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1901.	Registered Births.	Birth rate.	Death rate.	Death rate from the seven principal zymotic Diseases.	Phthisis death rate.		Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
LEIGH (Borough) .....	6358	40001	43000	1427	33·1	17·6	2·95	0·72	192	761	275	118	33	31	189
LEVENSHULME .....	606	11485	15500	448	28·9	11·7	1·54	1·16	104	182	47	35	5	9	64
LEYLAND .....	3725	6865	7000	175	25·0	12·8	0·85	1·00	114	90	20	19	4	4	25
LITHERLAND .....	857	10592	14065	556	39·5	16·9	4·55	0·78	172	238	96	46	6	8	50
LITTLEBOROUGH .....	7853	11166	11412	247	21·6	15·1	1·22	1·31	133	173	33	17	4	4	67
LITTLE CROSBY .....	1903	563	580	8	13·7	10·3	1·72	1·72	Nil.	6	..	..	1	2	2
LITTLE HULTON .....	1699	7294	7294	200	27·4	13·5	1·37	0·41	170	99	34	12	3	3	31
LITTLE LEVER .....	808	5119	5300	135	25·4	19·2	5·84	0·56	200	102	27	23	2	8	27
LITTLE WOOLTON .....	1389	1091	1091	17	15·5	15·5	1·83	0·91	58	17	1	6	1	2	3
LONGRIDGE .....	3285	4304	4304	115	26·7	13·4	Nil.	1·62	78	58	9	5	2	..	11
LYTHAM .....	2464	7185	8000	156	19·5	13·1	0·62	0·62	70	105	11	5	4	3	47
MIDDLETON (Borough) ..	4775	25178	25178	597	23·7	19·1	2·18	1·07	201	481	120	59	20	27	154
MILNROW .....	5198	8241	8400	181	21·5	19·0	2·50	1·54	171	160	31	23	8	5	51
MORECAMBE (Borough) ..	1801	11798	13000	215	16·5	14·4	1·15	0·69	148	188	32	18	7	10	66
MOSSLEY (Borough) ....	3622	13452	13633	278	20·3	15·1	1·24	0·95	140	206	39	23	7	14	72

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.						Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1904.		Birth- rate.	Death- rate.	Death- rate from the seven principal Zymotic Diseases.	Phthisis death- rate.	Respi- ratory Death- Rate.	Under 1 year.		1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
*MOSS SIDE .....	421	26677	27861	549	19.7	12.5	0.82	0.96	2.04	92	51	28	7	11	155	98	
MUCH WOOLTON .....	792	4731	4731	134	28.3	16.0	3.38	1.05	2.74	111	15	8	9	4	25	15	
NELSON (BOROUGH) ....	3466	32816	35000	712	20.3	12.2	1.31	0.68	3.17	162	116	71	11	21	129	81	
NEWTON-IN-MAKERFIELD.	3105	16699	18178	580	31.9	15.7	3.35	0.93	3.57	174	101	47	16	13	74	36	
NORDEN .....	5358	3907	3907	76	19.4	15.3	1.53	1.02	3.58	157	12	8	2	3	23	12	
ORMSKIRK .....	574	6857	6857	219	31.9	18.9	1.60	1.16	4.81	132	29	17	4	5	42	33	
ORRELL .....	1617	5436	5436	198	36.4	17.8	4.41	0.55	4.04	151	30	21	10	2	18	16	
OSWALDTWISTLE .....	4885	14192	14600	320	21.9	18.7	2.67	0.95	4.04	190	61	51	16	9	88	49	
PADIHAM .....	970	12205	12472	315	25.2	16.8	1.68	0.80	3.68	222	70	26	7	7	54	46	
†PEMBERTON .....	2895	21664	22722	694	35.7	21.9	5.24	1.80	3.80	230	160	99	13	18	86	51	
POULTON-LE-FYLDE ....	915	2223	2250	49	21.7	13.7	1.33	0.88	0.88	163	8	2	1	2	9	9	
PRESALL-WITH- HACKINSALL .....	3232	1423	1500	44	29.3	18.0	0.66	0.66	0.66	90	4	1	..	..	9	13	
PRESBOT .....	297	7855	7700	275	35.7	20.0	3.37	1.42	3.37	174	48	23	6	9	40	28	

\* By the Manchester Corporation Act, 1904, this district was transferred to the City of Manchester on November 9th, 1904. Statistics supplied for the Whole Year.

† On the 9th November, 1904, this district was incorporated by the County Borough of Wigan. Statistics relate to period prior to that date.

TABLE I.—Continued.

URBAN DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1904.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
PRESTWICH .....	2494	9779	*10485	220	20.9	12.5	0.95	0.76	2.76	81	132	18	22	4	3	52	33
RADCLIFFE .....	3098	25368	25500	619	24.2	19.6	2.94	1.17	3.88	197	502	122	75	32	26	148	99
RAINFORD .....	5877	3359	3322	88	26.4	12.9	1.80	Nil.	2.10	68	43	6	5	1	1	14	16
RAMSBOTTOM.....	6424	15920	15920	321	20.1	15.1	1.19	1.25	2.19	112	241	36	20	11	14	97	63
RAWTESTALL (Borough)	9535	31053	31350	710	22.6	15.7	1.85	0.73	2.36	143	493	102	65	16	18	171	121
RISHTON.....	2985	7031	7300	144	19.7	12.1	2.19	0.41	3.15	152	89	22	12	9	2	26	18
ROYTON .....	2145	14881	15350	406	26.4	18.2	2.01	1.56	3.97	162	280	66	37	16	14	96	51
ST. ANNES-ON-THE-SEA ..	3342	6838	8556	134	15.6	10.4	0.58	1.28	1.51	134	89	18	4	2	5	30	30
SKELMERSDALE .....	1942	5699	6400	242	37.8	26.7	5.15	0.78	4.37	219	171	53	40	10	5	41	22
SOUTHPORT (Borough) ..	5144	48083	50385	882	17.5	14.4	0.73	1.11	1.92	134	729	119	49	17	30	249	265
STANDISH-WITH-LANGTREE .....	3266	6303	6546	223	34.0	20.0	1.37	1.37	3.97	174	131	39	16	9	8	41	18
STRETFORD .....	3240	30436	34060	742	21.7	13.0	1.29	0.67	2.75	114	443	85	43	19	20	179	97
SWINTON AND PENDLEBURY.....	2212	27005	28200	895	31.7	21.2	4.96	0.70	4.96	224	598	201	109	28	23	152	85
THORNTON .....	2996	3108	3711	116	31.2	14.0	1.07	0.80	2.96	103	52	12	2	2	1	18	17

\* Excluding a Population of 2,997 in the County Asylum.

TABLE I.—Continued.

URBAN DISTRICTS.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.							
	Area in Statute Acres.	Census, 1901.	Registered Births.	Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Fluthisis Death-rate.		Respi-ratory Death-rate.	At all Ages.	1 under 1 year.	1 and 2 under 2.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
TOTTINGTON .....	2543	6118	6450	120	18·6	15·8	1·55	1·39	2·48	116	14	10	7	3	46	22
TRAWDEN .....	6815	2641	2780	73	26·2	20·5	2·15	1·07	3·92	232	17	6	2	1	21	10
TURTON.....	17335	12355	12513	277	22·1	12·5	0·31	0·71	2·31	83	23	10	7	6	64	47
TYLDESLEY-WITH-SHAKERLEY .....	2490	14843	16000	497	31·0	15·1	2·18	0·56	3·12	183	91	23	13	14	69	32
ULVERSTON .....	3172	10064	10060	250	24·8	18·7	1·39	0·99	4·07	172	43	16	4	4	65	57
UPHOLLAND .....	4686	4773	4773	156	32·6	16·5	1·04	0·41	3·77	108	17	11	3	4	19	25
URMSTON .....	992	6594	7200	162	22·5	13·7	1·25	0·27	2·50	135	22	9	1	5	41	21
WALTON-LE-DALE .....	4658	11271	11271	289	25·6	18·3	2·66	1·41	2·83	179	52	33	7	8	54	53
WARDLE.....	3192	4427	*4100	71	17·3	13·9	1·21	1·21	3·65	84	6	5	..	3	26	17
WATERLOO-WITH-SEAFORTH .....	952	23102	25863	662	25·5	12·1	2·04	0·54	1·97	125	83	52	14	6	90	69
WESTHOUGHTON .....	5560	14377	15217	467	30·6	16·2	2·10	0·92	2·76	164	77	30	11	9	66	54
WHITEFIELD.....	1406	6588	6790	163	24·0	19·1	2·65	0·88	2·79	141	23	10	6	1	56	34
WHITWORTH .....	4485	9578	9600	200	20·8	19·3	2·60	1·87	4·66	160	32	22	7	15	74	36
WIDNES (Borough).....	3110	28580	29569	1011	34·1	17·5	1·92	0·47	3·17	171	173	67	38	21	165	55

\* Excluding Population of Public Institutions.



TABLE I.—Continued.

URBAN DISTRICTS.	Population at all ages.		Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.		Mortality from all causes at subjoined ages.							
	Area in Statute Acres.	Census, 1901.	Estimate to middle of 1904.	Registered Births.	Birth-rate.	Death-rate from the seven principal Zymotic Diseases.	Phtisis Death-rate.	Respiratory Death-rate.	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.		
*WITHINGTON.....	5218	33770	437000	755	20·4	11·8	0·67	0·78	2·27	104	439	79	28	11	12	178	131
WITINELL.....	3705	3349	3500	78	22·2	12·0	0·85	0·85	1·42	141	42	11	4	..	3	12	12
WORSLEY .....	5412	12462	12889	345	26·7	14·5	2·40	0·93	2·17	130	187	45	27	5	5	64	41

\* By the Manchester Corporation Act, 1904, this district was transferred to the City of Manchester on November 9th, 1904. Statistics supplied for the Whole Year.

† Excluding a Population of 2,508 in the Manchester Workhouse.



**TABLE II.—DEATHS** registered during the year 1904, in the **URBAN DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Pneumal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases	
ABRAM .....	Under 5...	..	2	1	2	..	1	..	..	..	..	..	9	20	..	..	..	1	6	1	10	..	7	..	8	..	12
	5 upwards	..	..	..	..	1	..	..	3	..	..	..	..	..	..	1	..	..	..	2	11	1	..	..	..	..	30
ACCRINGTON (Borough) ..	Under 5...	..	25	4	14	1	1	..	..	..	..	14	14	..	15	..	1	55	5	12	49	..	1	2	..	2	90
	5 upwards	..	..	2	..	1	..	..	7	..	..	2	..	..	..	..	..	..	33	33	100	14	45	7	..	7	183
ADLINGTON .....	Under 5...	..	2	1	..	..	..	..	..	..	..	3	..	..	..	..	..	1	5	..	5	..	13	..	..	..	11
	5 upwards	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	2	..	2	8	..	..	..	..	..	14
ALLERTON .....	Under 5...	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	3	..	..	..	..	1
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	3	
ASHTON-IN-MAKERFIELD ..	Under 5...	..	5	5	9	2	1	..	..	1	..	29	8	..	..	..	..	8	6	7	30	..	1	2	..	7	58
	5 upwards	..	..	2	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	21	..	15	7	1	53	
ASHTON-UNDER-LYNE (Borough) .....	Under 5...	3	10	5	10	5	5	..	1	..	..	25	10	1	1	..	2	42	4	..	52	..	2	..	9	10	157
	5 upwards	6	..	4	..	4	..	..	4	..	..	2	5	3	2	..	..	..	28	..	75	4	69	..	..	214	
ASPULL .....	Under 5...	..	..	..	1	1	..	..	1	..	..	8	..	..	1	..	..	6	2	7	17	..	7	3	..	24	
	5 upwards	..	..	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	6	6	28	..	..	..	..	36	
ATHERTON .....	Under 5...	..	1	1	6	6	..	..	..	..	..	31	1	..	..	..	1	16	19	6	15	..	1	3	..	52	
	5 upwards	..	2	..	..	3	..	..	6	..	..	1	2	..	..	2	..	..	6	8	25	4	14	9	2	38	
AUDENSHAW .....	Under 5...	..	1	1	1	1	..	..	..	..	..	8	3	..	..	..	..	7	1	..	3	..	1	1	..	20	
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	7	12	2	17	1	1	20	

TABLE II.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Typhoid Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	(Other Tubercular Diseases.)	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
								Typhus.	Typhoid.	Other continued.																
BACUP (Borough)	Under 5... 5 upwards	..	6	1	24	2	1	..	3	..	..	3	6	..	1	..	4	3	16	26	..	..	20	1	2	49
BARROWFORD	Under 5... 5 upwards	..	7	..	..	1	1	..	1	..	..	1	1	..	..	..	2	..	1	5	1	2	..	..	..	7
BELLINGE	Under 5... 5 upwards	1	3	..	4	1	..	..	..	..	..	2	10	..	..	..	3	1	1	7	..	..	7	2	..	11
BIRKDALE	Under 5... 5 upwards	..	3	1	3	..	..	..	..	..	..	5	6	..	..	..	1	5	7	1	3	15	..	2	25	
BISPHAM-WITH-NORWICK	Under 5... 5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	..	1	..	4	1	..	4	
*BLACKPOOL (Borough)	Under 5... 5 upwards	..	7	2	3	5	..	..	3	..	..	28	4	..	4	..	2	8	31	22	11	3	7	..	96	
BLACKROD	Under 5... 5 upwards	..	..	..	1	1	..	..	3	..	..	6	3	..	..	..	1	1	2	6	1	6	2	..	8	
BRIERFIELD	Under 5... 5 upwards	..	4	1	5	6	..	..	..	..	..	..	2	..	..	1	1	7	3	17	1	8	..	..	17	
CARNFORTH	Under 5... 5 upwards	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	1	7	2	2	..	..	7	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	10	

\* Blackpool became a County Borough on the 1st October, 1901. Statistics refer to nine months only.

TABLE II.—Continued.

URBAN DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																	Suicides	All other Diseases.								
		Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Typhus	Fever			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).			Other Tubercular Diseases.	Cancer, malignant Disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.		
CHADDERTON.....	Under 5... 5 upwards	1 1	28 1	3 1	7 1	3 ..	..	..	..	..	..	..	..	..	5 1	9 2	1 2	..	..	4 35	4 5	26 53	29 53	..	5 43	1 10	3 6	77 97
CHILDWALL .....	Under 5... 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1 1	..	..	..	..	..	..
CHORLEY (Borough) .....	Under 5... 5 upwards	..	7 1	3 2	5 ..	1 2	..	..	1	..	..	..	..	..	5 ..	15 5	1 ..	..	..	11 3	26 51	33 51	..	2 45	2 12	3 1	..	93 105
CHURCH .....	Under 5... 5 upwards	..	7 ..	..	1 ..	1 ..	..	..	..	..	..	..	..	..	8 ..	..	..	1	..	3 ..	5 ..	13 14	..	11 ..	1 1	..	13 27	
CLAYTON-LE-MOORS .....	Under 5... 5 upwards	..	11 ..	..	4 ..	2 ..	1 ..	..	1	..	..	..	..	..	4 2	5 ..	1 ..	..	2 1	4 ..	3 ..	10 16	..	16 ..	1 1	..	..	18 35
CLITHEROE (Borough) ..	Under 5... 5 upwards	..	16 ..	..	5 ..	4 ..	..	..	..	..	..	..	..	..	..	8 ..	2 ..	..	2 3	9 ..	16 12	..	1 ..	2 ..	..	3 ..	30 59	
COLNE (Borough) .....	Under 5... 5 upwards	..	22 ..	..	6 1	2 ..	..	..	1	..	..	..	..	..	4 1	12 3	1 ..	..	1 29	2 16	21 34	..	2 25	2 5	..	..	64 74	
CROMPTON .....	Under 5... 5 upwards	..	6 ..	1 ..	1 1	..	..	..	1	..	..	..	..	1	11 2	14 3	5 ..	3 ..	1 16	7 ..	15 24	..	2 ..	5 ..	..	2 ..	32 63	
CROSTON .....	Under 5... 5 upwards	..	..	..	1 ..	..	..	..	..	..	..	..	..	..	..	1 ..	..	..	4 ..	1 ..	2 7	..	..	1 ..	1 ..	..	6 10	
DALTON-IN-FURNESS .....	Under 5... 5 upwards	..	3 ..	1 1	1 ..	..	4 ..	..	..	..	..	..	..	..	5 ..	..	2 ..	..	16 ..	6 ..	11 25	..	1 ..	7 ..	1 ..	..	29 42	







TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																			All other Diseases.					
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.				Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Dyspepsia.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.		Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	
HURST .....	Under 5... 5 upwards	..	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	13	..	..	1	..	33
		2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	13	..	..	..	..	41
HUYTON-WITH-ROBY .....	Under 5... 5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	1	..	8
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	5	..	..	1	..	13
INCE-IN-MAKERFIELD .....	Under 5... 5 upwards	..	5	5	11	2	1	..	..	..	..	49	46	..	..	..	..	..	..	..	..	61	..	..	..	..	79
		..	1	4	..	..	..	..	..	2	..	..	..	..	1	..	..	12	4	7	67	..	..	16	11	4	64
IRLAM .....	Under 5... 5 upwards	..	3	1	3	2	1	..	..	..	..	10	1	..	..	..	..	..	..	..	..	3	..	..	..	..	5
		..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	5	..	..	3	9	..	..	4	..	31
KEARSLEY .....	Under 5... 5 upwards	..	..	1	7	4	..	..	..	..	..	13	3	..	..	..	..	..	..	..	..	16	..	..	2	..	43
		..	..	1	1	3	..	..	..	..	..	..	..	..	..	2	..	7	1	3	13	..	..	3	2	32	
KIRKHAM .....	Under 5... 5 upwards	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	5	..	..	..	..	..	5
		..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	6	1	7	7	..	..	..	..	22	
LANCASTER (Borough) ..	Under 5... 5 upwards	..	15	1	8	..	..	..	..	..	..	11	13	..	..	..	..	1	24	..	25	..	..	1	2	..	122
		..	2	2	..	..	..	..	..	3	..	..	..	4	4	..	..	1	45	12	27	45	4	37	9	1	148
LATHAM AND BURSICOTT.	Under 5... 5 upwards	..	3	..	6	1	..	..	..	..	..	5	7	..	..	..	..	1	5	..	9	..	..	1	2	..	9
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	1	6	12	3	13	2	..	23	
LEES .....	Under 5... 5 upwards	..	1	..	1	2	..	..	..	..	..	1	1	..	..	..	..	..	1	..	6	..	..	..	..	..	8
		..	..	..	..	2	..	..	..	..	..	..	..	1	..	..	..	2	2	3	6	3	11	1	..	12	
LEIGH (Borough) .....	Under 5... 5 upwards	..	11	14	13	2	1	..	1	..	..	59	18	..	..	..	4	2	30	..	75	..	3	4	..	..	156
		..	..	14	..	2	..	..	..	11	..	..	..	1	..	..	1	29	14	29	65	5	40	26	4	..	123



TABLE II.—Continued.

URBAN DISTRICTS.		Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																	Suicides.	Accidents.	All other Diseases.			
		Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phtthisis (Pul. Tuberculosis).				Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.
LEVENSHULME .....	Under 5..	..	5	..	1	9	2	..	..	..	..	7	9	..	1	..	..	1	3	..	13	..	1	1
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	2	2	17	..	..	17	6	12	20	2	10	2
	Under 5..	..	1	..	1	3	1	..	..	..	..	..	4	..	..	..	..	7	1	..	13	1	7	1
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	2
LEYLAND .....	Under 5..	..	10	4	10	2	1	..	..	..	..	33	6	..	..	..	..	..	6	..	31	..	..	1
	5 upwards	..	..	1	..	1	..	..	..	..	..	1	..	..	11	..	..	11	..	5	16	1	17	1
LITHERLAND.....	Under 5..	..	..	3	5	2	1	..	..	..	..	1	3	..	..	..	..	..	7	1	6	..	..	6
	5 upwards	..	..	1	..	1	..	..	..	..	..	1	..	..	15	..	..	15	1	2	25	2	16	1
LITTLEBOROUGH .....	Under 5..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	..	2	1
LITTLE CROSBY .....	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	2	..	..	1	..	..	..	..	..	7	2	..	3	..	..	3	1	3	16	..	..	1
LITTLE HULTON .....	Under 5..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..	..	..	..	7	..	..	3
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	2	2	3	..	..	3	1	3	7	..	..	1
LITTLE LEVER.....	Under 5..	..	14	..	4	3	..	..	..	..	..	8	..	1	..	..	1	..	..	..	10	..	..	2
	5 upwards	..	1	..	..	..	..	..	..	..	..	1	1	..	3	..	2	1	3	3	9	1	6	3
LITTLE WOOLTON .....	Under 5..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	1	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	2	..	..	..
LONGRIDGE .....	Under 5..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	2	7	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	7	2	2	2	..	..	1
LYTHAM .....	Under 5..	..	..	..	1	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	5	..	..	1
	5 upwards	..	1	..	..	..	..	..	..	..	..	..	..	..	5	..	..	5	..	3	14	..	19	3

TABLE II.—Continued.

URBAN DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																									
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phtisis (Pul. Tuberculosis).	Other Tuberc. Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
MIDDLETON (Borough) ..		Under 5.. 5 upwards	..	8	22	1	2	..	..	..	..	14	4	1	..	..	2	6	..	40	..	4	..	..	4	..	..	77
			..	2	4	..	1	..	..	..	..	..	..	5	..	..	..	8	18	51	..	4	52	3	1	123		
MILNROW .....		Under 5.. 5 upwards	..	7	..	6	2	..	..	..	..	4	..	..	..	..	1	8	..	7	..	2	..	1	..	..	13	
			..	..	..	..	2	..	..	..	..	..	1	..	..	..	1	3	7	26	..	9	5	..	..	40		
MORECAMBE (Borough) ..		Under 5.. 5 upwards	..	3	2	1	1	..	..	..	..	4	4	..	..	..	..	1	..	9	..	..	1	..	1	..	24	
			..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	2	13	18	..	1	24	3	3	59		
MOSSLEY (Borough) ....		Under 5.. 5 upwards	..	9	1	2	..	..	..	..	..	1	2	..	..	1	1	4	..	17	..	2	..	1	..	2	21	
			..	1	1	..	1	..	..	..	..	..	2	..	..	..	..	6	16	30	..	4	18	1	2	49		
*MOSS SIDE .....		Under 5.. 5 upwards	..	7	..	4	..	2	..	..	..	7	..	2	..	1	..	8	..	18	..	2	..	4	..	26		
			..	..	1	..	1	..	..	..	..	2	1	2	..	..	27	3	25	39	2	43	6	4	112			
MUCH WOOLTON .....		Under 5.. 5 upwards	..	1	2	5	..	..	..	..	..	4	..	..	..	..	..	2	..	2	..	..	..	2	..	7		
			..	..	4	..	..	..	..	..	..	..	..	3	..	..	5	..	2	11	3	3	2	..	..	20		
NELSON (Borough)....		Under 5.. 5 upwards	..	23	2	15	2	..	..	..	..	2	9	..	..	..	..	9	..	46	..	..	2	..	..	76		
			..	..	1	..	..	..	..	..	..	1	5	2	1	..	23	3	16	65	..	24	1	4	94			
NEWTON-IN-MAKERFIELD.		Under 5.. 5 upwards	..	3	2	18	2	..	..	..	..	31	4	..	..	..	..	13	1	34	..	..	2	..	..	38		
			..	1	2	..	1	..	..	..	..	..	..	4	1	..	17	1	5	31	..	14	2	2	57			
NORDEN .....		Under 5.. 5 upwards	..	1	..	..	2	..	..	..	..	..	5	..	..	..	..	1	..	7	..	..	..	..	..	4		
			..	..	..	..	2	..	..	..	..	1	..	..	..	..	4	1	3	7	2	7	..	2	11			

\* By the Manchester Corporation Act, 1904, this district was transferred to the City of Manchester on November 9th, 1904. Statistics supplied for the Whole Year.





TABLE II.—Continued.

Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																										
URBAN DISTRICTS.	Age at Death.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Group.	Fever.			Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
								Typhus	Typhoid	Other continued																
STRETFORD .....	Under 5..	..	8	3	7	6	..	..	..	12	5	..	..	..	1	1	7	..	30	..	2	..	..	46	4	46
	5 upwards	..	1	..	..	4	..	..	..	1	1	2	..	..	2	22	5	28	64	..	14	13	..	..	106	
SWINTON AND PENDLEBURY .....	Under 5..	..	37	10	22	3	..	..	..	46	2	..	..	..	1	..	40	..	69	..	..	7	..	..	73	
	5 upwards	..	3	3	..	4	..	..	..	1	..	4	1	..	..	20	4	13	71	..	5	6	..	..	101	
THORNTON .....	Under 5..	..	..	..	..	..	..	..	..	4	1	..	..	..	..	..	1	..	4	..	..	..	..	..	4	
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	2	7	..	..	2	..	..	19	
TOTTINGTON .....	Under 5..	..	1	2	3	1	2	..	..	..	2	1	..	..	..	1	..	..	3	..	1	..	..	..	10	
	5 upwards	..	..	1	..	..	..	..	..	..	..	1	..	..	..	8	..	6	13	..	1	6	..	..	21	
TRAWDEN .....	Under 5..	..	3	..	1	2	..	..	..	..	..	..	..	..	..	1	..	..	5	..	..	..	..	..	11	
	5 upwards	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	..	2	6	..	..	..	..	..	18	
TURTON .....	Under 5..	..	..	..	4	..	1	..	..	..	..	..	..	..	1	..	3	..	9	..	..	1	..	..	16	
	5 upwards	..	..	..	..	2	..	..	..	..	..	2	..	..	..	9	..	10	20	..	2	6	1	..	50	
TYLDESLEY-WITH-SHARERLEY .....	Under 5..	..	..	1	4	2	..	..	..	16	..	..	3	..	..	..	2	..	22	..	..	1	..	..	64	
	5 upwards	..	..	..	2	3	..	..	1	1	..	..	..	..	..	9	2	6	28	..	..	5	..	..	50	
ULVERSTON .....	Under 5..	..	..	1	..	6	..	..	..	5	..	..	..	..	..	..	3	..	15	..	1	1	..	..	27	
	5 upwards	..	..	..	..	2	..	..	..	..	..	4	..	..	..	10	3	12	26	..	8	2	2	..	57	
UPHOLLAND .....	Under 5..	..	2	..	2	..	..	..	..	..	2	..	..	..	..	..	5	..	7	..	..	1	..	..	23	
	5 upwards	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	..	1	11	..	..	..	..	..	9	
URMSTON .....	Under 5..	..	..	..	2	..	..	..	..	5	3	..	..	..	..	..	1	..	5	..	..	1	..	..	14	
	5 upwards	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	..	7	13	..	9	2	..	..	26	







**TABLE III.—DEATHS** registered during the year 1904 in the **RURAL DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rate therein during the year.

NOTES :—(a) The Area and Population of each District are taken from the Census Return.

(b) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

RURAL DISTRICTS.	Area in Statute Acres.	Population at all ages.			Annual Rates per 1000 of estimated population.						Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1904.	Registered Births.	Birth rate.	Death rate.	Death rate from the seven principal Zymotic Diseases.	Phthisis Death rate.	Respiratory Death rate.	At all Ages.		1 under 1 year.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
BARTON-UPON-IRWELL ..	6872	8065	8694	231	26·5	16·3	2·53	1·03	1·84	160	142	37	13	9	5	47	31
BLACKBURN .....	20150	8238	8238	182	22·0	13·8	1·45	0·60	2·42	126	114	23	11	3	5	36	36
*BURNLEY .....	42325	16589	18000	389	21·6	14·3	0·88	0·77	3·61	149	258	58	25	9	12	80	74
BURY .....	12014	8088	8259	159	19·2	13·0	1·33	0·84	1·69	157	108	25	11	3	5	37	27
CHORLEY .....	39988	19310	20200	514	25·4	14·3	1·58	0·84	2·37	134	289	69	37	10	10	88	75
*CLITHEROE (Lancashire portion) .....	32231	6726	5845	129	22·0	14·5	0·51	1·88	2·56	54	85	7	..	5	3	39	31
FYLDE .....	38768	10235	10625	273	25·6	11·9	0·75	0·56	1·60	98	127	27	11	3	2	38	46
GARSTANG .....	57380	10437	10437	220	21·0	13·3	0·95	0·38	2·39	118	139	26	7	5	3	48	50
LANCASTER .....	54503	8837	8893	199	22·3	12·1	0·89	0·78	1·79	105	108	21	6	6	7	33	35
LEIGH .....	11574	8410	8870	301	33·9	16·7	1·91	0·11	4·50	142	149	43	16	6	5	38	41

\* By the formation of the new Township of Sabden an area of 1,228 acres and a Population of 880 were transferred on the 1st March, 1904, from the Clitheroe Rural District to the Burnley Rural District.

TABLE III.—Continued.

RURAL DISTRICTS.	Area in Statute Acres.	Population at all ages.		Annual Rates per 1000 of estimated population.						Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.		Mortality from all causes at subjoined ages.					
		Census, 1901.	Estimate to middle of 1904.	Registered Births.	Birth Rate.	Death Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.	At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	
LIMEHURST .....	4772	10338	10700	269	25.1	14.9	2.33	0.65	3.27	141	160	38	26	7	48	34	
LUNESDALE .....	76267	6948	6948	171	24.6	12.3	0.43	0.71	1.29	70	86	12	5	4	25	35	
PRESTON .....	52929	15997	*15997	414	25.8	15.1	0.81	0.81	2.25	94	243	39	18	8	11	81	
SEFTON .....	16949	9384	11260	373	33.1	14.6	2.30	0.62	2.57	152	165	57	16	9	6	42	
ULVERSTON .....	127871	17716	17716	423	23.8	13.4	0.67	1.07	2.25	96	238	41	13	7	10	71	
WARRINGTON .....	19360	10496	†11708	295	25.1	12.2	2.39	0.59	1.96	152	143	45	12	10	7	36	
WEST LANCASHIRE .....	69051	26645	27950	637	22.7	13.2	1.00	0.85	2.03	119	369	76	39	7	17	110	
WHISTON .....	31281	18961	†19820	519	26.1	12.2	2.32	0.85	2.42	121	243	63	33	15	12	64	
WIGAN .....	11695	6045	6506	196	30.1	15.9	0.92	0.92	3.07	122	104	24	15	1	4	27	

\* Excluding a Population of 2,432 in Public Institutions.

† Excluding a Population of 3,000 in Winwick Asylum.

‡ Excluding Population of Public Institutions.

**TABLE IV.—DEATHS** registered during the year 1904 in the **RURAL DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

RURAL DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.
BARTON-UPON-IRWELL ..		Under 5.. 5 upwards	..	5 ..	.. 1	6 ..	2 5	..	..	..	..	..	3	..	..	..	..	.. 9	4 1	.. 12	8 8	.. 3	.. 6	.. 4	.. 2	22 41
BLACKBURN .....		Under 5.. 5 upwards	..	2 ..	2 ..	6 ..	1 1	..	..	..	..	..	..	..	.. 2	..	..	.. 5	1 2	.. 8	5 15	.. 1	1 14	3 1	.. 2	13 27
BURNLEY .....		Under 5.. 5 upwards	..	4 ..	.. 1	3 ..	1 1	2 ..	.. 2	..	..	3 1	5 1	..	..	.. 2	..	.. 14	2 5	.. 8	28 37	.. 1	1 31	2 8	.. 2	32 61
BURY .....		Under 5.. 5 upwards	..	1 ..	.. 3	2 ..	1 ..	..	..	..	..	3 1	2 1	..	..	..	.. 1	1 6	5 ..	.. 6	8 6	.. 1	.. 12	.. 5	.. 1	13 28
CHORLEY .....		Under 5.. 5 upwards	..	3 ..	3 2	11 ..	2 2	..	..	..	..	4 1	6 ..	.. 3	.. 2	..	.. 1	1 16	2 2	1 11	20 28	.. 3	.. 29	3 6	.. 1	49 73
CLITHEROE (Lancashire portion).....		Under 5.. 5 upwards	..	.. 2	..	..	..	..	..	..	..	..	..	1 ..	..	..	..	.. 11	.. 2	.. 2	2 13	.. 2	.. 7	1 1	..	3 32

TABLE IV.—Continued.

RURAL DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																									
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Group.	Group.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis.	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.		
FYLDE.....	Under 5... 5 upwards	..	..	1	..	1	..	..	..	..	..	..	..	..	5	2	1	2	..	..	3	..	7	..	..	..	..	18
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	10	11	7	..	..	46
		..	..	1	5	2	..	..	..	..	..	..	..	..	..	..	2	2	..	..	1	..	7	..	..	..	1	17
GARSTANG.....	Under 5... 5 upwards	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	18	10	3	..	..	54
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17
		..	1	1	..	1	..	..	..	..	..	..	3	..	..	..	..	1	2	..	..	5	..	..	..	..	1	14
LANCASTER .....	Under 5... 5 upwards	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	1	7	11	..	8	5	..	..	37
		..	..	2	3	1	..	..	..	..	..	..	9	..	..	..	1	..	1	2	..	17	..	..	1	..	23	
		..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23	..	11	5	..	1	41
LEIGH.....	Under 5... 5 upwards	1	9	1	3	1	..	..	..	..	..	..	..	..	5	..	..	..	7	2	..	15	..	..	1	..	..	26
		1	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	20	2	14	6	1	40	
		..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	5	..	8	4	..	..	1	..	..	11
LUNESDALE .....	Under 5... 5 upwards	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	5	..	13	1	..	3	28
		..	4	1	1	1	1	..	..	..	..	5	..	..	..	..	..	..	13	7	16	8	..	15	3	..	23	
		..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	4	16	28	..	15	3	1	97	
PRESTON .....	Under 5... 5 upwards	..	4	2	..	..	..	..	..	..	..	16	4	..	..	..	..	7	4	..	18	..	2	2	..	..	20	
		..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	5	9	11	..	11	10	1	..	34	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20	
SEFTON .....	Under 5... 5 upwards	..	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	
		..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	
ULVERSTON .....	Under 5... 5 upwards	..	4	2	2	1	..	..	..	..	..	1	..	..	..	..	..	1	3	..	15	..	2	1	..	..	24	
		..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	18	17	25	..	27	5	..	5	79	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	
WARRINGTON .....	Under 5... 5 upwards	..	3	1	5	2	..	..	..	..	..	15	..	..	..	..	..	..	7	5	..	..	..	..	1	..	20	
		..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13	..	..	24	
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	

TABLE IV.—Continued.

RURAL DISTRICTS.		Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																								
			Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria & Mem. Croup.	Croup.	Fever.			Cholera.	Diarrhoea.	Enteritis.	Epidemic Influenza.	Puerperal Fever.	Erysipelas.	Phthisis (Pul. Tuberculosis).	Other Tubercular Diseases.	Cancer, malignant disease.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Accidents.	Suicides.	All other Diseases.	
WEST LANCASHIRE .....	Under 5.. 5 upwards	..	8	2	6	..	..	..	1	1	..	..	8	8	4	..	..	1	4	4	..	19	..	1	1	..	52
		..	1	..	..	..	1	..	2	2	..	..	..	..	5	50	18	1	20	2	14	38	5	50	1	1	91
WHISTON .....	Under 5.. 5 upwards	..	11	2	7	..	..	..	..	..	..	14	3	2	..	..	..	..	17	5	8	19	3	1	2	..	33
		1	2	..	2	2	..	..	1	..	..	..	3	3	..	..	..	..	13	3	8	29	3	14	9	4	45
WIGAN .....	Under 5.. 5 upwards	..	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	6	3	..	7	..	..	1	..	23
		..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	13	..	1	8	..	33



**TABLE V.--DEATHS and CASES NOTIFIED (or ascertained) in 133 Districts supplying Monthly Returns during the Year ending December 31st, 1904.**

• NOTE.--These totals do not cover the whole of the Administrative County, but only those Districts supplying Returns.

MONTH.	Small-pox.		Diphtheria.		Membranous Croup.		Erysipelas.		Scarlet Fever.		Typhus.				Fever.				Measles.		Chicken Pox.		Whooping Cough.		Total of preceding columns.		Deaths from				Deaths from all Causes.
	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	
Jan. ..	43	6	152	26	21	11	115	2	782	28	..	..	89	22	10	1	12	8	23	106	100	..	82	48	1429	258	11	635	44	19	2516
Feb. ..	25	2	143	23	16	8	91	2	720	27	..	..	86	16	3	..	14	4	113	79	90	..	35	59	1336	220	21	631	28	13	2522
March ..	64	1	180	15	18	7	116	3	763	35	..	..	66	16	3	..	15	4	148	95	92	..	95	76	1510	252	14	584	30	17	2561
April ..	29	1	74	11	6	5	107	8	717	29	..	..	68	12	2	..	16	7	196	84	110	1	51	74	1376	232	15	483	23	9	2325
May ..	16	2	100	14	11	6	87	2	723	19	1	..	46	11	6	..	9	2	455	73	50	1	63	68	1567	198	19	382	12	11	2119
June ..	19	..	92	7	6	..	101	3	629	23	..	..	55	7	2	..	10	5	125	50	69	..	25	61	1133	156	31	298	10	5	1927
July ..	30	1	88	9	10	2	92	2	759	18	..	..	48	8	2	..	9	5	88	45	25	..	7	38	1158	128	53	239	6	12	1696
August ..	36	1	84	16	10	4	88	2	693	26	..	..	97	11	2	..	8	3	64	38	6	1	7	38	1085	140	469	197	4	13	2333
Sept. ..	32	1	106	11	9	3	127	2	766	23	1	..	172	21	3	..	4	4	40	24	9	..	6	45	1275	134	392	215	8	7	2159
Oct.....	26	4	150	17	8	5	167	6	1040	17	..	..	174	28	4	..	10	3	224	43	31	1	5	30	1839	154	145	322	7	9	2000
Nov. ..	39	2	132	18	24	10	147	6	957	26	..	..	141	31	1	..	9	1	135	75	18	..	72	26	1675	195	38	434	10	7	2035
Dec. ..	46	1	132	17	13	8	149	5	718	23	..	..	114	26	1	..	12	7	5	69	38	7	27	50	1255	213	14	785	33	8	2614
*Year..	405	22	1383	184	152	69	1387	43	9267	294	2	..	1156	209	39	1	128	53	1606	781	638	11	475	613	16638	2280	1222	5205	215	130	26807

+ Notifiable in 5 districts.

+ Temporarily notifiable in a few districts.

§ Cases reported voluntarily in a few districts.



## THE MIDWIVES ACT, 1902.\*

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### OPERATION IN THE ADMINISTRATIVE COUNTY OF LANCASTER.

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As you are aware, under the Midwives Act, March 31st, 1905, was the last day on which claims could be made for enrolment by women holding certain specified certificates in midwifery, or who had been in *bonâ fide* practice as midwives for one year previous to the passing of the Act (July 31st, 1902). No uncertified woman can now use the name or title of midwife (either alone or in combination with any other word or words), or imply that she is certified under the Act, "or is a person specially qualified to practise midwifery, or is recognized by law as a midwife." Whether she can continue to attend persons in confinement is doubtful, but there does not seem to be any direct prohibition of such a course, although after the expiration of five years of grace Section (2) provides that from and after the first day of April, 1910, "no woman shall habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under the Act." Appreciating the importance of certification to persons who could claim such privilege either by having passed an examination or having been in *bonâ fide* practice during the specified period required by the Act, every effort has been made in the Administrative County of Lancaster, by advertisement in the newspapers, and by carefully conducted local inquiries, to give every possible information to those concerned respecting the mode of certification and other matters affecting persons practising as midwives. In addition, the County Council greatly assisted the work of enrolment by providing the

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\* Paper read by Edward Sergeant, L.R.C.P. (Lond.), M.R.C.S., L.S.Sc., County Medical Officer of Health, at the Meeting of the North-Western Branch of the Society of Medical Officers of Health, on April 28th, 1905.

various forms, and seeing that they were properly filled up and duly forwarded to the Central Midwives Board. Since the Lancashire County Council in November, 1903, delegated its powers as the Local Supervising Authority under the Act to a Special Committee, composed of the medical practitioners on the Council, with the addition of one member from each of the four County Quarter Sessional Divisions, 1,107 applications have been made for certification, of which 108 applied direct to the Central Midwives Board, and the remainder to the County Authority. Thirty-five of the applicants resided in districts which have since ceased to form part of the Administrative County, and their names have been transmitted to the Medical Officers of Health of the County Boroughs concerned.

I have prepared a tabular statement giving the distribution of 1,072 midwives who have applied from the 131 Lancashire County Districts to be certified; three applications were refused by the Central Midwives Board on the grounds of evidence as to character supplied by me, and 36 either withdrew or did not complete their applications, leaving a total of 1,033 midwives under the supervision of the County Council. Of these, 295 practise in 19 non-County Boroughs, 586 in 93 Urban Districts, and 152 in 19 Rural Districts; the proportion of midwives to population being 1 to 2,000 in the Boroughs, 1 to 1,548 in Urban Districts, and 1 to 1,587 in the Rural Districts. Included in the above figures there are 13 certified midwives resident outside the Administrative County who have given notice of their intention to practise within the County Council area, viz., Wigan 3, Oldham 3, Bolton 2, Liverpool 2, Rochdale 1, Barrow-in-Furness 1, and the County of Chester 1.

Of the 1,033 midwives now under supervision, 152 hold the following certificates: Obstetrical Society of London, 55; Coombe Lying-in Hospital and Guinness's Dispensary, Dublin,

2; Rotunda Hospital for the relief of the poor lying-in women of Dublin, 1; Queen Charlotte's Lying-in Hospital, 1; Liverpool Ladies' Charity and Lying-in Hospital, 37; Manchester Southern and Maternity Hospital, 13; St. Mary's Hospital, Manchester, 43; while 881 have claimed to be certified by reason of having been in *bonâ fide* practice twelve months prior to the passing of the Act. The fact that 211, or 22 per cent., of the persons enrolled as midwives cannot sign their own names indicates the character of those who have hitherto been responsible for carrying out the work of so much importance to the community, and there is reason to believe that much difficulty will be experienced in getting these illiterates to observe the rules framed by the Central Midwives Board as to the keeping of (a) case books, (b) statement of particulars when a medical practitioner is sent for under certain specified conditions, (c) record of administering any drug, with the time and cause of its administration; or in regard to the notification of death of mother or child which may have taken place before the attendance of a registered medical practitioner; still births; puerperal fever, and other infectious diseases. Owing to ignorance of the use of a thermometer, a further difficulty will arise in observing rule 17 (c) 1 (5), which requires that a registered medical practitioner must be sent for on the occurrence in a lying-in woman of a temperature of 100·4° Fahr., accompanied with a quickening of the pulse, for more than twenty-four hours. In reply to my communication on this point the Central Midwives Board suggest that midwives be informed as to the use of a thermometer, a proceeding which will be attended with little beneficial result in many cases.

Now that the work of enrolment has been completed, it behoves the Committee of the County Council as Local Supervising Authority to carry out the administrative duties imposed on them by the Midwives Act, which I may say were not delegated as they could have been, if they so

desired, to District Councils in the County Area. By retaining the powers under the Act it was thought that there would be more likelihood of uniformity and efficiency of administration being secured, as well as economy and complete control over expenditure. By Section 8 the duties imposed on the Local Supervising Authority are of a comprehensive and important character, and comprise :—

1. General supervision of midwives.
2. Investigation of charges of malpractice, negligence, or misconduct.
3. Suspension of midwives in order to prevent the spread of infection, &c.

In addition a correct roll of midwives has to be kept and submitted to the Central Midwives Board in January of each year, and the Board have to be promptly informed of the death of any midwife, or any change in the name or address of any midwife within their area, but, unfortunately, no provision has been made for obtaining these particulars. The difficulty, however, with respect to deaths of midwives has been removed by the Registrar-General, who has issued his authority “for local Registrars of Births and Deaths to furnish to County and County Borough Councils certified copies of entries of deaths of Midwives on the payment of the fee of 2s. 7d. for each such certificate.”

The directions to midwives drawn up by the Central Midwives Board with the approval of the Privy Council, are of a far-reaching character, and if reasonably carried out will act beneficially in limiting puerperal infection of the uterus, and the other dangers inherent to childbirth. They refer to :—

The personal cleanliness of the midwife: she must wear a dress of washable material, and over it a clean, washable apron.

She must take with her to a confinement :—

- (a). “An appliance for giving vaginal injections; an appliance for giving enemata; a catheter; a pair of seissors; a clinical thermometer; and a nail brush.”
- (b). “An efficient antiseptic for disinfecting the hands, &c.”
- (c). “An antiseptic for douching in special cases.”
- (d). “An antiseptic lubricant for smearing the fingers, catheters, douche nozzles, and enema nozzles before they touch the patient.”

There are also important duties placed on midwives as to their conduct to women during labour and the lying-in stage, and in respect of the child born apparently dead, &c. The general directions prescribe the conditions under which she must send for a registered medical practitioner, and a midwife must decline to attend alone “in all cases of abortion, of illness of patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in.”

In order to provide for the proper supervision of midwives, and for a due observance of the rules and regulations framed under the Act, Lancashire and the following Counties: Durham, Glamorgan, Shropshire, Staffordshire, Norfolk, Northamptonshire, Worcestershire, Warwickshire, &c., have appointed female inspectors to act under the direction of their Medical Officers; the Inspector appointed in this County being a trained nurse certificated in midwifery, while in Durham, Worcestershire, and partly in Staffordshire the work is entrusted to lady doctors. The question of educating the *bona fide* midwives who have been placed on the roll is rapidly coming to the fore, and already courses of lectures for their special benefit have been initiated in several counties. The training and supply of midwives has also occupied attention; for instance, the Glamorgan County Council has



decided to contribute annually the sum of £100 to the medical department of the University College, Cardiff, towards the establishment of a training centre for persons desirous of becoming midwives, twenty-one free studentships being awarded annually. A sum of £50 is also contributed annually by the Corporation of Cardiff for the same purpose. The Shropshire County Council has also spent £500 towards the teaching of midwifery nursing, while Staffordshire and Northumberland County Councils are contemplating a similar expenditure. The character of the midwives now in practice, and the value of the supervision initiated in this County, will be more correctly estimated by the following quotation extracted from the last quarterly report (April 13th, 1905,) of the Inspector (Miss Wright) :—

“Of the 332 midwives interviewed, 84 have provided themselves with a case-book and bag of appliances, 78 others had an incomplete set of appliances, 149 had not obtained the case-book, and 112 did not carry the required appliances. I find that at the present time very few midwives keep their case-books in a satisfactory manner, and in many instances the entries indicate a lack of knowledge of the work they undertake to perform.

“The majority of the midwives are clean in their person, and have respectable homes, but 27 women apparently do not appreciate the importance of carrying out Rule 1, which states that the midwife must be scrupulously clean in every way. I impressed upon these persons the necessity of cleanliness, and pointed out the serious danger to their patients by such neglect.

“Rule 15 states that no midwife shall undertake the duty of laying-out the dead, and I have been asked by many of the midwives whether they can do this work when not attending midwifery cases, as in several instances they depend for a living more upon this class of work than upon midwifery.”



I may state that I have written to the Central Midwives Board in regard to the practice of certain midwives who also undertake the duty of laying out the dead, one case being mentioned where a person had on her door-plate "midwife and undertaker." The Board inform me that such a practice is clearly against the rules, and should be dealt with at once by the Local Supervising Authority. Rule 15 was specially inserted to meet such a case, "which the Board understood on the information of one of its members is by no means unknown in Lancashire."

In three cases I have had occasion to call the attention of the Central Midwives Board to the drunken habits of women applying to be placed on the Roll by virtue of having been in *bonâ fide* practice, and all were rejected. On only one occasion have I had to report to the Central Midwives Board a woman for malpractice. In this case the midwife came to the conclusion that a newly-born child was tongue-tied, and attempted to cut the frænum with a small pair of ordinary scissors, but unfortunately cut the tip of the tongue, causing hæmorrhage from which the child died in the course of forty-eight hours, a doctor being called in just before death. The Board taking into consideration "all the facts of the case, and noting that the Local Supervising Authority had requested the Board to exercise leniency if possible," severely censured the midwife for her misconduct in attempting to perform a surgical operation, and cautioned her against any future action of this kind. Section 8 (4) of the Act requires the Local Supervising Authority to report at once to the Board the name of any midwife practising in their area convicted of an offence; as there is no special means provided for obtaining this information I have been able to obtain the assistance of the County Police in this matter.

From a public health point of view the most important rule devised by the Board is the one relating to puerperal

fever: "Whenever a midwife has been in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances to the satisfaction of the local Sanitary Authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the Local Supervising Authority, all washable clothing should be boiled, and other clothing should be sent to be stoved (by the local Sanitary Authority), and then exposed freely to the open air for several days." This seems to be the only duty imposed by the Central Midwives Board upon local Sanitary Authorities, and it is essential that each district should be provided with apparatus for ensuring satisfactory disinfection. Further, on receiving notification of the outbreak of puerperal fever it is well known to be the duty of the local Medical Officer of Health under Article 18 (6) of the General Order of the Local Government Board relating to his duties, to visit without delay the spot where the outbreak has occurred, and make inquiries with the object of taking such measures for the prevention of disease as he is legally authorized to take. In fact under the new Act he continues to do what he has hitherto done, but he may now be further strengthened by the Local Supervising Authority, who have power under Section 8 (3) of the Act to suspend a midwife in case she contravenes the directions for the use of disinfectants, or for the employment of proper safeguards against the spread of infection.

Although it is the duty of the midwife to notify the occurrence of puerperal fever and other infectious diseases in her practice, it is the medical practitioner called in who has to diagnose the case, and it is his duty to notify to the local authority, and I can quite see that there may be some delay in the midwife ascertaining the nature of the disease, and so notifying the case to the proper quarter. In order to secure

prompt and reliable information of the occurrence of puerperal fever in the constituent districts of the county, and concerning the action taken by the local Sanitary Authorities as to disinfection and other precautionary measures, it will be necessary for the County Council to be in touch with the district Medical Officers of Health. On this point I have the support of many of the County Medical Officers of Health. Dr. Paget (Northamptonshire) in a recent paper on the control of midwives gives expression to the views held: the Medical Officer of Health, he says, "has to report to his District Council on the occurrence of notifiable infectious diseases coming to his knowledge within his district; he is, however, under no obligation to report similarly to the County Council. Nevertheless he is the best person to supply the information without delay, and to recompense him in a slight degree for such a service to the Local Supervising Authority, the Derbyshire, Northamptonshire—and possibly other County Councils—have already arranged to pay half a guinea for a report by a District Medical Officer of Health on the circumstances of each case of puerperal fever notified to him as occurring in the practice of midwives within his district."

A question of some importance to the medical profession arises out of rule 17, which requires a midwife to *advise* that a registered medical practitioner be sent for under certain conditions already mentioned. One would think that ordinarily the medical man would look to his patient for payment of his fee, as hitherto, but the difficulty arises when the patient cannot pay. Should the Poor-law Guardians give increased facilities for their Medical Officer to be called in under such circumstances? or, should the Local Supervising Authority pay? The latter view is taken in some districts, and I may mention that the Liverpool City Council has decided, "that in cases of urgency in which medical practitioners have been called in by certificated midwives, as

contemplated by Rule 17 of the Rules issued by the Central Midwives Board, pursuant to Section 3, Sub-section 1 of the Midwives Act, 1902, a fee not exceeding one guinea be paid, on the certificate of the Medical Officer of Health, to each such medical practitioner, in the event of his failing to obtain payment of his fee from the patient or from the Poor-law Authority." The Council of the City of Manchester propose to adopt a similar course, and the Manchester Medical Guild has been in communication with the Local Government Board as to whether Local Authorities can legally pay the fees for such medical attendance. It has been pointed out to me that the reply received states that such payments might be made under Section 133 of the Public Health Act, 1875. This section, however, enables only urban and rural Sanitary Authorities, which are "local authorities" under the Act, to provide the necessary medical help, whilst County Councils, upon whom devolves very largely the administration of the Midwives Act, have no such powers, and the Secretary of the Central Midwives Board informed me (December 8th, 1904) that he is afraid the medical practitioner called in under the provisions of Section E, Rule 17, "must take his chance of payment by his patient, as, unfortunately, County Councils have at present no power to pay these fees." I believe, however, that the Central Midwives Board favour the payment, under statutory provisions, of a medical practitioner when called in by the midwife, and have forwarded a resolution to this effect to the Privy Council. If a clause as foreshadowed is inserted in an amending Act it will be a very serious thing for County Councils. In this County alone some 50,000 births take place annually, and it is computed that over one-half are attended by midwives; therefore it may safely be assumed that a considerable expense would be thrown on the County Council.

One other matter, which relates to still-births, and the

action to be taken on their notification, claims our consideration. For the first time an attempt has been made to subject still-births to inquiry. As you are aware, there is no registration of still-births in the United Kingdom, and the only reference to them is under Section 18 of the Registration of Births and Deaths Act, 1874, where previous to burial "a person who has control over or ordinarily buries bodies in any burial ground" must have delivered to him (a) a written certificate from a medical practitioner; (b) a declaration signed by some person who would if the child had been born alive have been required by the Act to give information concerning the birth; or (c) in case of inquest, an order of the Coroner. *Nursing Notes* for July, 1904, states that the registration of still-births is compulsory in France since 1806, Germany 1875, Austria 1870, Italy 1865, Norway 1797, Sweden 1860, and Denmark 1871. Still-births are registered as deaths in France, Spain, Germany, and Hungary; they are registered as births in Italy and Sweden; they are registered as both births and deaths in Austria, etc. They are registered separately from births and deaths in Norway, and as still-births in the column of deaths in Denmark. A letter received (December 23rd, 1904) from the Central Midwives Board states that the matter of still-births is "one which is entirely within the discretion and competence of the Local Supervising Authority, who will no doubt investigate the circumstances of each case, if they consider it necessary." In a large number of cases the notification of still-births will not be received by the Local Supervising Authority until after burial, when profitable investigation would be rendered somewhat difficult. Action could in my opinion be more advantageously taken in each district by the local Medical Officer of Health, and I would also suggest that all still-births, whether occurring in the practice of a medical practitioner or midwife, be made compulsorily notifiable both to the District Council and Local Supervising Authority.



In concluding my remarks I must express high approval of the aims of the Midwives Act, for I believe it will undoubtedly secure what it is intended to do, namely, "the better training of midwives," and consequently their increased usefulness.

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